

TAC: Fire

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TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

1

CA12257

Date Submitted	02/17/2025	**Section**	110.3.14	**Proponent**	Cade Booth
Chapter	1	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

CA12257Text Modification

CHAPTER 1

SCOPE AND ADMINISTRATION

SECTION 110

INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

Page: 1

Mod12257_TextOfModification.pdf

CA12257Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

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CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

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4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R_h	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION													
	See Footnotes	Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

Page: 21

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

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CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

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CA12257Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12257_Text_FBC Mass Timber Full Package - ch 1.pdf

CA12257Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12257_Rationale_FBC Mass Timber Summary.pdf

CA12257Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12257_Rationale_FBC Mass Timber Summary.pdf

CA12257Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12257_Rationale_FBC Mass Timber Summary.pdf

CA12257Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12257_Rationale_FBC Mass Timber Rationale.pdf

CA12257Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12257_Rationale_FBC Mass Timber Rationale.pdf

CA12257Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12257_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

2

F12149

Date Submitted	02/14/2025	**Section**	202	**Proponent**	Amanda Hickman
Chapter	2	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

12145-12148

Summary of Modification

Updates code regarding A2L products

Rationale

A2L refrigerants are low burning velocity, mildly flammable gases. As the air conditioning and refrigeration industries transition to lower global warming potential refrigerants, applications where A1 refrigerants are currently being used will begin using A2Ls. This code change recognizes that even though these refrigerants are categorized as flammable gases, their low burning velocities give them characteristics more similar to A1 refrigerants than flammable gases such as hydrocarbons. As such, this code change allows the warehousing, storage and use of A2L refrigerants without the need to classify occupancies as Group H. This State Code Amendment Proposal is consistent with updates that have been approved in the 2024 International Building and Fire Codes and the 2024 edition of NFPA 1.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Will assist code enforcement regarding A2L products.

Impact to building and property owners relative to cost of compliance with code

These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Impact to industry relative to the cost of compliance with code

These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Impact to small business relative to the cost of compliance with code

These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Updates code to ensure air conditioning products are permitted in the state of Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Updates code to ensure air conditioning products are permitted in the state of Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Only permits the use of A2L products.

Does not degrade the effectiveness of the code

No. Only permits the use of A2L products.

F12149Text Modification

Chapter 2: Definitions

[F] FLAMMABLE GAS. A material that is a gas at 68°F (20°C) or less at 14.7 pounds per square inch atmosphere (psia) (101 kPa) of pressure [a material that has a boiling point of 68°F (20°C) or less at 14.7 psia (101 kPa)] which subdivided as follows:

1. Category 1A

    1. A gas that is ignitable at 14.7 psia (101 kPa) when in a mixture of 13 percent or less by volume with air; or

    2. A gas with a flammable range at 14.7 psia (101 kPa) with air of at least 12 percent, regardless of the lower limit., unless data show compliance with Category 1B.

2. Category 1B

A gas that meets the flammability criteria for Category 1A, is not pyrophoric or chemically unstable, and meets one or more of the following:

1. A lower flammability limit of more than 6 percent by volume in air; or

2. A fundamental burning velocity of less than 3.9 in/s (10 cm/s).

The limits specified shall be determined at 14.7 psi (101 kPa) of pressure and a temperature of 68°F (20°C) in accordance with ASTM E681.

Where not otherwise specified, the term "flammable gas" includes both Category 1A and Category 1B.

Page: 1

Mod12149_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

3

F12258

Date Submitted	02/17/2025	**Section**	202	**Proponent**	Cade Booth
Chapter	2	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12258Text Modification

CHAPTER 2

DEFINITIONS

SECTION 202

DEFINITIONS

Revise and add new definitions as follows:

[BS]WALL,LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.

2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 1

Mod12258_TextOfModification.pdf

F12258Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

FBC 9th edition – Mass Timber Package

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R[h]	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

Page: 21

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

Page: 22

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

CHAPTER 35

REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12258_Text_FBC Mass Timber Full Package - ch 2.pdf

F12258Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12258_Rationale_FBC Mass Timber Summary.pdf

F12258Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12258_Rationale_FBC Mass Timber Summary.pdf

F12258Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12258_Rationale_FBC Mass Timber Summary.pdf

F12258Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12258_Rationale_FBC Mass Timber Rationale.pdf

F12258Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12258_Rationale_FBC Mass Timber Rationale.pdf

F12258Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12258_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

4

F12281

Date Submitted	02/18/2025	**Section**	202	**Proponent**	Cade Booth
Chapter	2	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12281Text Modification

CHAPTER 2

DEFINITIONS

SECTION 202

DEFINITIONS

Add new definition as follows:

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

Page: 1

Mod12281_TextOfModification.pdf

F12281Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12281_Text_202 MT.pdf

F12281Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12281_Text_202 MT.pdf

F12281Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12281_Text_202 MT.pdf

F12281Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12281_Text_202 MT.pdf

F12281Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12281_Text_202 MT.pdf

F12281Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12281_Text_202 MT.pdf

F12281Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12281_Text_202 MT.pdf

F12281Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12281_Text_202 MT.pdf

F12281Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12281_Text_202 MT.pdf

F12281Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12281_Text_202 MT.pdf

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12281_Text_202 MT.pdf

F12281Text Modification

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12281_Text_202 MT.pdf

F12281Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12281_Text_202 MT.pdf

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4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12281_Text_202 MT.pdf

F12281Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12281_Text_202 MT.pdf

F12281Text Modification

CHAPTER 33

SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12281_Text_202 MT.pdf

F12281Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12281_Text_202 MT.pdf

F12281Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12281_Text_202 MT.pdf

F12281Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12281_Text_202 MT.pdf

F12281Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

Mod_12281_Text_202 MT.pdf

F12281Text Modification

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21
Mod_12281_Text_202 MT.pdf

F12281Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION												
	See Footnotes	Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12281_Text_202 MT.pdf

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

Mod_12281_Text_202 MT.pdf

F12281Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24

Mod_12281_Text_202 MT.pdf

F12281Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12281_Text_202 MT.pdf

F12281Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12281_Text_202 MT.pdf

F12281Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12281_Text_202 MT.pdf

F12281Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12281_Text_202 MT.pdf

F12281Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12281_Text_202 MT.pdf

F12281Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12281_Text_202 MT.pdf

F12281Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12281_Text_202 MT.pdf

F12281Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12281_Rationale_FBC Mass Timber Summary.pdf

F12281Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12281_Rationale_FBC Mass Timber Summary.pdf

F12281Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12281_Rationale_FBC Mass Timber Summary.pdf

F12281Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12281_Rationale_FBC Mass Timber Rationale.pdf

F12281Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12281_Rationale_FBC Mass Timber Rationale.pdf

F12281Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12281_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

5

F12282

Date Submitted	02/18/2025	**Section**	202	**Proponent**	Cade Booth
Chapter	2	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12282Text Modification

CHAPTER 2

DEFINITIONS

SECTION 202

DEFINITIONS

Add new definition as follows:

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the fire-resistance rating and delay the combustion of mass timber.

Page: 1

Mod12282_TextOfModification.pdf

F12282Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12282_Text_202 NP.pdf

F12282Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12282_Text_202 NP.pdf

F12282Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12282_Text_202 NP.pdf

F12282Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12282_Text_202 NP.pdf

F12282Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12282_Text_202 NP.pdf

F12282Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12282_Text_202 NP.pdf

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permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12282_Text_202 NP.pdf

F12282Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12282_Text_202 NP.pdf

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glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12282_Text_202 NP.pdf

F12282Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12282_Text_202 NP.pdf

F12282Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12282_Text_202 NP.pdf

F12282Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12282_Text_202 NP.pdf

F12282Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12282_Text_202 NP.pdf

F12282Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12282_Text_202 NP.pdf

F12282Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12282_Text_202 NP.pdf

F12282Text Modification

CHAPTER 33

SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12282_Text_202 NP.pdf

F12282Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12282_Text_202 NP.pdf

F12282Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12282_Text_202 NP.pdf

F12282Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12282_Text_202 NP.pdf

F12282Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION													
	See Footnotes	Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

18

Page: 21

Mod_12282_Text_202 NP.pdf

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION												
	See Footnotes	Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12282_Text_202 NP.pdf

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

Mod_12282_Text_202 NP.pdf

F12282Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24

Mod_12282_Text_202 NP.pdf

F12282Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12282_Text_202 NP.pdf

F12282Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12282_Text_202 NP.pdf

F12282Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12282_Text_202 NP.pdf

F12282Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12282_Text_202 NP.pdf

F12282Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12282_Text_202 NP.pdf

F12282Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12282_Text_202 NP.pdf

F12282Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12282_Text_202 NP.pdf

F12282Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12282_Rationale_FBC Mass Timber Summary.pdf

F12282Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12282_Rationale_FBC Mass Timber Summary.pdf

F12282Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12282_Rationale_FBC Mass Timber Summary.pdf

F12282Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12282_Rationale_FBC Mass Timber Rationale.pdf

F12282Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12282_Rationale_FBC Mass Timber Rationale.pdf

F12282Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12282_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

6

F12299

Date Submitted	02/18/2025	**Section**	202	**Proponent**	Shane Gerwig
Chapter	2	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Building 202 Adds additional method to calculate building area. Building Chapter 35 Adds Referenced Standards Residential R202 Adds additional method to calculate building area. Residential Chapter 46 Adds Referenced Standard

Summary of Modification

This modification provides an additional path to calculate building area.

Rationale

This option allows designers to complete building area measurements consistent with industry standards.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
No impact. Adds alternative method.
Impact to building and property owners relative to cost of compliance with code
No impact. Adds alternative method.
Impact to industry relative to the cost of compliance with code
No impact. Adds alternative method.
Impact to small business relative to the cost of compliance with code
No impact. Adds alternative method.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The additional language provides for an option to allow for consistency with industry standards.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The additional language provides for an option to allow for consistency with industry standards.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Materials, products, methods, or systems of construction are not impacted as this provides for an additional method.

Does not degrade the effectiveness of the code

This modification will not degrade the effectiveness of the code.

F12299Text Modification

SECTION202
DEFINITIONS

AREA, BUILDING. The area included within surrounding *exterior walls* (or *exterior walls* and *fire walls*) exclusive of vent *shafts* and *courts*. Areas of the building not provided with surrounding walls shall be included in the building area if such areas are included within the horizontal projection of the roof or floor above. Building area may also be calculated in accordance with ANSI/BOMA Z65.1, ANSI/BOMA Z65.2, ANSI/BOMA Z65.3, ANSI/BOMA Z65.4, ANSI/BOMA Z65.5, or ANSI/BOMA Z65.6.

Page: 1

Mod12299_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

7

F12150

Date Submitted	02/14/2025	**Section**	307	**Proponent**	Amanda Hickman
Chapter	3	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

12145-12149

Summary of Modification

Updates code regarding A2L products.

Rationale

A2L refrigerants are low burning velocity, mildly flammable gases. As the air conditioning and refrigeration industries transition to lower global warming potential refrigerants, applications where A1 refrigerants are currently being used will begin using A2Ls. This code change recognizes that even though these refrigerants are categorized as flammable gases, their low burning velocities give them characteristics more similar to A1 refrigerants than flammable gases such as hydrocarbons. As such, this code change allows the warehousing, storage and use of A2L refrigerants without the need to classify occupancies as Group H. This State Code Amendment Proposal is consistent with updates that have been approved in the 2024 International Building and Fire Codes and the 2024 edition of NFPA 1.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Will assist code enforcement regarding A2L products.

Impact to building and property owners relative to cost of compliance with code
These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Impact to industry relative to the cost of compliance with code
These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Impact to small business relative to the cost of compliance with code
These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Updates code to ensure air conditioning products are permitted in the state of Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Updates code to ensure air conditioning products are permitted in the state of Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Updates code to ensure air conditioning products are permitted in the state of Florida.

Does not degrade the effectiveness of the code

No. Only permits the use of A2L products.

F12150Text Modification

See attached PDF.

Page: 1

Mod12150_TextOfModification.pdf

F12150Text Modification

Modification # 12150

CHAPTER 3: OCCUPANCY CLASSIFICATION AND USE

TABLE 307.1(1)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, j, m, n, p]

[Portions of table not shown remain unchanged.]

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[b]			USE-CLOSED SYSTEMS[b]			USE-OPEN SYSTEMS[b]	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)
Flammable gas	Gaseous									
	1A and 1B (High BV)[f]	H-2	NA	NA	1,000[d, e]	NA	NA	1,000[d,e]	NA	NA
	1B (Low BV)[f]				162,500[d,e]			162,500[d,e]		
	Liquified									
	1A and 1B (High BV)[f]	H-2	NA	(150)[d,e]	NA	NA	(150)[d,e]	NA	NA	NA
	1B (Low BV)[f]			(10,000)[d, e]			(10,000)[d,e]			

FOR SI: 1 CUBIC FOOT = 0.028 M³, 1 POUND = 0.454 KG, 1 GALLON = 3.785 L.
NL = NOT LIMITED; NA = NOT APPLICABLE; UD = UNCLASSIFIED DETONABLE.

a. For use of control areas, see Section 414.2.
b. The aggregate quantity in use and storage shall not exceed the quantity ~~listed~~ specified for storage.
c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited provided the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.
d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.
e. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, day boxes, gas cabinets, gas rooms or exhausted enclosures or in listed safety cans in accordance with the *Florida fire prevention code*. Where Note d also applies, the increase for both notes shall be applied accumulatively.
f. Quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

Page: 1

Mod_12150_Text_12150.pdf

F12150Text Modification

g. Allowed only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
h. Containing not more than the maximum allowable quantity per control area of Class IA, IB or IC flammable liquids.
i. The maximum allowable quantity shall not apply to fuel oil storage complying with the *Florida fire prevention code*.
j. Quantities in parentheses indicate quantity units in parentheses at the head of each column.
k. A maximum quantity of ~~200~~ 220 pounds of solid or ~~20~~ 22 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment when the storage containers and the manner of storage are approved.
l. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks, including packaging, shall be used.
m. For gallons of liquids, divide the amount in pounds by 10 in accordance with the *Florida fire prevention code*.
n. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).
o. Densely packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.
p. The following shall not be included in determining the maximum allowable quantities:
    1. Liquid or gaseous fuel in fuel tanks on vehicles.
    2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with the *Florida fire prevention code*.
    3. Gaseous fuels in piping systems and fixed appliances regulated by the *Florida fire prevention code*.
    4. Liquid fuels in piping systems and fixed appliances regulated by the *Florida fire prevention code*.
    5. Alcohol-based hand rubs classified as Class I or II liquids in dispensers that are installed in accordance with the *Florida fire prevention code*. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents.
q. Where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.
r. "High BV" Category 1B flammable gas has a burning velocity greater than 3.9 in/s (10 cm/s). "Low BV" Category 1B flammable gas has a burning velocity of 3.9 in/s (10 cm/s) or less.

[F] 307.4 High-hazard Group H-2. Buildings and structures containing materials that pose a deflagration hazard or a hazard from accelerated burning shall be classified as Group H-2. Such materials shall include, but not be limited to, the following:

Class I, II or IIIA flammable or combustible liquids which are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 ~~pounds per square inch gauge~~ psi (103.4 kPa) gage.
Combustible dusts where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.
Cryogenic fluids, flammable.
Category 1A Flammable gases.
Category 1B Flammable gases having a burning velocity greater than 3.9 inches per second (10 cm/s).
Organic peroxides, Class I.
Oxidizers, Class 3, that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 ~~pounds per square inch gauge~~ psi (103 kPa) gage.
Pyrophoric liquids, solids and gases, nondetonable.

Page: 2
Mod_12150_Text_12150.pdf

F12150Text Modification

Unstable (reactive) materials, Class 3, nondetonable.
Water-reactive materials, Class 3.

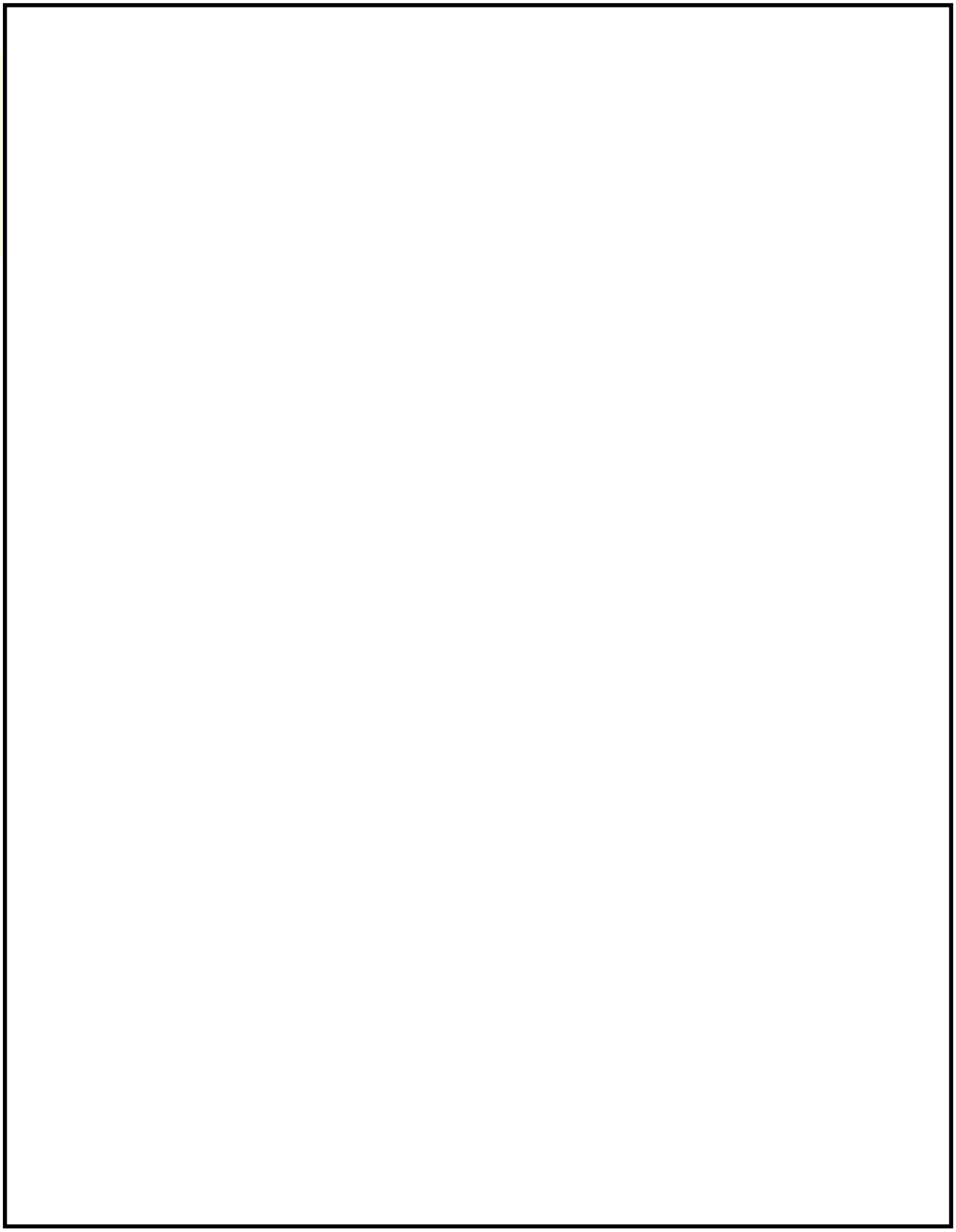
[F] 307.5 High-hazard Group H-3. Buildings and structures containing materials that readily support combustion or that pose a *physical hazard*
shall be classified as Group H-3. Such materials shall include, but not be limited to, the following:

Class I, II or IIIA *flammable or combustible liquids* that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103.4 kPa) or less.
Combustible fibers, other than densely packed baled cotton, ~~*where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.*~~
Consumer *fireworks*, 1.4G (Class C, Common).
Cryogenic fluids, oxidizing.
Category 1B *flammable gases* having a burning velocity of 3.9 inches per second (10 cm/s) or less.
Flammable solids.
Organic peroxides, Class II and III.
Oxidizers, Class 2.
Oxidizers, Class 3, that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103 kPa) or less.
Oxidizing gases.
Unstable (reactive) materials, Class 2.
Water-reactive materials, Class 2.

Page: 3

Mod_12150_Text_12150.pdf

F12150Text Modification



Mod_12150_Text_12150.pdf Page: 4

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

8

F12179

Date Submitted	02/16/2025	**Section**	310.6	**Proponent**	Joseph Belcher
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Reformats Group R provisions for clarity

Rationale

The change reformats and modifies the section to eliminate the confusion between Group R-3 and R-4 regarding when the design and construction of R-4 occupancies under the Florida Building Code-Residential are permitted. Section 310.5.1 is deleted and is addressed in the list in Section 310.5. Failure to correctly classify R-4 occupancies permitted to be designed and built as R-3 under the Florida Building Code-Residential results in additional unnecessary costs in the tens of thousands of dollars, leading to less availability of these occupancies and increased costs to seniors in today's aging population.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

Failure to correctly classify R-4 occupancies permitted to be designed and built as R-3 under the Florida Building Code-Residential results in additional unnecessary costs in the tens of thousands of dollars, leading to less availability and increased costs to the public in today's aging population.

Impact to industry relative to the cost of compliance with code

Failure to correctly classify R-4 occupancies permitted to be designed and built as R-3 under the Florida Building Code-Residential results in additional unnecessary costs in the tens of thousands of dollars, leading to less availability and increased costs to the public in today's aging population.

Impact to small business relative to the cost of compliance with code

Failure to correctly classify R-4 occupancies permitted to be designed and built as R-3 under the Florida Building Code-Residential results in additional unnecessary costs in the tens of thousands of dollars, leading to less availability and increased costs to the public in today's aging population.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The change has a positive effect on public welfare by clarifying the code and eliminating confusion

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The change improves the code by clarifying the code and eliminating confusion

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

The change does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities.

Does not degrade the effectiveness of the code

The proposed change does not degrade the effectiveness of the code and improves the effectiveness of the code.

F12179Text Modification

~~**310.5.1 Care facilities within a dwelling.** Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the *Florida Building Code, Residential* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or Section P2904 of the *Florida Building Code, Residential*.~~

~~**310.5.2 Lodging houses.** Owner-occupied *lodging houses* with five or fewer *guest rooms* and 10 or fewer occupants shall be permitted to be constructed in accordance with the *Florida Building Code, Residential*.~~

310.5 Residential Group R-3.

Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4, or I, including:

Buildings that do not contain more than two *dwelling units*

Boarding houses (nontransient) with 16 or fewer occupants

Boarding houses (*transient*) with 10 or fewer occupants

Congregate living facilities (nontransient) with 16 or fewer occupants

Congregate living facilities (*transient*) with 10 or fewer occupants.

Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the *Florida Building Code, Residential* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or Section P2904 of the *Florida Building Code, -Residential*

310.5.~~2~~1 Lodging houses.

Owner-occupied *lodging houses* with five or fewer *guest rooms* and 10 or fewer occupants shall be permitted to be constructed in accordance with the *Florida Building Code, Residential*

310.6 Residential Group R-4.

Residential Group R-4 occupancy shall include buildings, structures, or portions thereof for more than five but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive *custodial care*. Buildings of Group R-4 shall be classified as one of the occupancy conditions specified in Section 310.6.1 or 310.6.2. This group shall include, but not be limited to, the following:

Page: 1

Mod12179_TextOfModification.pdf

F12179Text Modification

- Alcohol and drug centers
- Assisted living facilities
- Congregate care facilities
- *Group homes*
- Halfway houses
- Residential board and *custodial* care facilities
- Social rehabilitation facilities

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code, or shall be classified as Group R-3 and comply with the *Florida Building Code-Residential* provided the building is protected by an automatic sprinkler system installed in accordance with Section 903~~.2.8~~..3.1.3.of this code or Section P2904 of the Florida Building Code-Residential.

310.6.1 Condition 1.

This occupancy condition shall include buildings in which all persons receiving custodial care, without any assistance, are capable of responding to an emergency situation to complete building evacuation.

0.6.2 Condition 2.

This occupancy condition shall include buildings in which there are any persons receiving custodial care who require limited verbal or physical assistance while responding to an emergency situation to complete building evacuation.

Page: 2

Mod12179_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

9

F12224

Date Submitted	02/17/2025	**Section**	310.5	**Proponent**	Jennifer Hatfield
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), the intent of this change is to coordinate with the FBC Residential scoping for lodging houses.

Rationale

The intent of this change is to coordinate with the FBC Residential scoping for lodging houses. ‘Lodging house’ is a defined term while ‘Owner-occupied’ is not. Since the owner or proprietor lives in the lodging house (see the definition), this is not ‘transient’, so that ‘owner-occupied’ language should be deleted. LODGING HOUSE. A one-family dwelling where one or more occupants are primarily permanent in nature and rent is paid for guest rooms. Secondly, all fire stations contain living quarters for emergency personnel, which meet the definition of a dwelling unit. Fire stations are considered mixed-use facilities. This proposal will clarify how the living quarters within fire station buildings should be classified.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None, editorial change.
Impact to building and property owners relative to cost of compliance with code
None, editorial change.
Impact to industry relative to the cost of compliance with code
None, editorial change.
Impact to small business relative to the cost of compliance with code
None, editorial change.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, as will clarify how the living quarters within fire station buildings should be classified.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, as provides clarification.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12224Text Modification

310.5 Residential Group R-3.

Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Buildings that do not contain more than two *dwelling units*
Boarding houses (nontransient) with 16 or fewer occupants
Boarding houses (*transient*) with 10 or fewer occupants
Care facilities that provide accommodations for five or fewer persons receiving care
Congregate living facilities (nontransient) with 16 or fewer occupants
Congregate living facilities (*transient*) with 10 or fewer occupants
~~*Owner-occupied lodging*~~ *Lodging houses* with five or fewer *guest rooms* and 10 or fewer occupants
Emergency services living quarters

Page: 1

Mod12224_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

10

F12233

Date Submitted	02/17/2025	**Section**	306.2	**Proponent**	Jennifer Hatfield
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification provides guidance for storage and associated fire protection of alcoholic beverages both in warehouse and in small distillery facilities.

Rationale

This proposal provides guidance for storage and associated fire protection of alcoholic beverages both in warehouse and in small distillery facilities. One of the conceptual changes is the threshold at which the percentage of alcohol results in a higher classification of hazard. Traditionally, beverages with an alcohol content greater than 16% were considered to present a higher level of hazard and were therefore placed into Group F-1 for manufacturing and packaging and Group S-1 for storage. Recent testing by FM Global demonstrates that the 16% threshold was too conservative and the threshold is being revised to 20%. Even recent revisions to Ch 32 list beverages in glass or ceramic containers with up to 20% alcohol content as a Class I commodity. The alcohol content does not raise the flammability of the liquid to an extent where additional levels of protection are necessary, and for the most part can be considered nonflammable or noncombustible. As a result, the manufacturing, packaging and storage of beverages with an alcohol content up to 20% will be classified as Group F-2 or S-2 as appropriate.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

Will decrease the cost of construction. Allowing alcohol content up to 20% will be classified as Group F-2 or S-2 thus automatic sprinkler system will not be required per Section 903.2.

Impact to industry relative to the cost of compliance with code

Will decrease the cost of construction. Allowing alcohol content up to 20% will be classified as Group F-2 or S-2 thus automatic sprinkler system will not be required per Section 903.2.

Impact to small business relative to the cost of compliance with code

Will decrease the cost of construction. Allowing alcohol content up to 20% will be classified as Group F-2 or S-2 thus automatic sprinkler system will not be required per Section 903.2.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes, as it provides for code provisions based on the latest testing and data.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, as it provides for code provisions based on the latest testing and data.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12233Text Modification

306.2 Moderate-hazard factory industrial, Group F-1
Beverages: over ~~16~~20-percent alcohol content

306.3 Low-hazard factory industrial, Group F-2.
Beverages: up to and including ~~16~~20-percent alcohol content

311.2 Moderate-hazard storage, Group S-1.
Beverages: over 20-percent alcohol content

311.3 Low-hazard storage, Group S-2.
Beverages up to and including ~~16~~20-percent alcohol in metal, glass or ceramic containers

Page: 1

Mod12233_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

11

F12247

Date Submitted	02/17/2025	**Section**	311.2	**Proponent**	Jennifer Hatfield
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification adds aerosol cooking spray and plastic aerosols 3 (PA3) to the list for Group S-1, is consistent with the requirements in the FFPC and provides a more complete list.

Rationale

Adding aerosol cooking spray and plastic aerosols 3 (PA3) to the list for Group S-1 is consistent with the requirements in the FFPC and provides a more complete list. Without these being identified in the list, one is left to wonder what is the appropriate occupancy classification.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

The code change proposal will not increase or decrease the cost of construction. Adding these to the list does not change how the FBC is applied to these storage facilities.

Impact to industry relative to the cost of compliance with code

The code change proposal will not increase or decrease the cost of construction. Adding these to the list does not change how the FBC is applied to these storage facilities.

Impact to small business relative to the cost of compliance with code

None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes as it provides a more complete list and provides for consistency with the FFPC.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes as it provides a more complete list and provides for consistency with the FFPC.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12247Text Modification

311.2 Moderate-hazard storage, Group S-1.

Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

Aerosol products, Levels 2 and 3, aerosol cooking spray, plastic aerosol 3 (PA3)
Aircraft hangar (storage and repair)
Bags: cloth, burlap and paper
Bamboos and rattan
Baskets
Belting: canvas and leather
Books and paper in rolls or packs
Boots and shoes
Buttons, including cloth covered, pearl or bone
Cardboard and cardboard boxes
Clothing, woolen wearing apparel
Cordage
Dry boat storage (indoor)
Furniture
Furs
Glues, mucilage, pastes and size
Grains
Horns and combs, other than celluloid
Leather
Linoleum
Lumber
Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8)
Photo engravings
Resilient flooring
Silks
Soaps
Sugar
Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses
Wax candles

Page: 1

Mod12247_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

12

F12248

Date Submitted	02/17/2025	**Section**	307	**Proponent**	Jennifer Hatfield
Chapter	3	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this change coordinates the requirements for flammable gas with the change in definition to “flammable gas.” The change in definition results in two categories of flammable gas, Category 1A and Category 1B.

Rationale

This proposal cleans up the hazardous materials regulations and Group H occupancy classification and clarifies that the special exceptions generally fall into two categories:1) Outright exclusions to Group H with no quantity limit, or 2) Major increases of MAQ amounts beyond what is provided in the general application MAQ tables. The 1st group has appeared in a list of exceptions to Group H in s. 307.1.1, and these materials/conditions were exempt from ever being Group H or having to comply with any of the general hazardous materials regulations in the FBC and FFPC. The 2nd group gets its own MAQ allowances but were not specifically exempted from having to follow general hazardous materials safety requirements that are otherwise applicable to quantities that do not exceed MAQ amounts. Even in the original Group H requirements, and particularly footnotes to the MAQ tables, the "special conditions" were somewhat haphazardly organized. Additional changes coordinate the requirements for flammable gas with the definition change to “flammable gas,” which results in two categories of flammable gas, Category 1A and Category 1B. The existing requirements in the code are based on Category 1A flammable gases. As a result, new requirements had to be developed to regulate Category 1B flammable gases. There is a distinction between Category 1B flammable gas based on the burning velocity. The research is based on a burning velocity of 3.9 in/s (10 cm/s) or less. Higher burning velocity Category 1B flammable gases are not commercially available, hence there is no means of evaluating their performance. The changes to the table for the higher allowable quantities are for Category 1B low burning velocity flammable gases. There is no change to Category 1B high burning velocity flammable gases. BOAF asked our State fire officials to help us review these proposals which they concluded to be in line with the FFPC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None but provide important editorial changes.

Impact to building and property owners relative to cost of compliance with code
Will not increase or decrease the construction cost. These are editorial.
Impact to industry relative to the cost of compliance with code
Will not increase or decrease the construction cost. These are editorial.
Impact to small business relative to the cost of compliance with code
Will not increase or decrease the construction cost. These are editorial.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
These are editorial changes that will provide for better clarification for code users.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
These are editorial changes that will provide for better clarification for code users.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
It does not.
Does not degrade the effectiveness of the code
It does not.

F12248Text Modification

SECTION 202
DEFINITIONS

[F] FLAMMABLE GAS. A material that is a gas at 68°F (20°C) or less at 14.7 pounds per square inch atmosphere (psia) (101 kPa) of pressure [a material that has a *boiling point* of 68°F (20°C) or less at 14.7 psia (101 kPa)] ~~which~~ subdivided as follows:

1. Category 1A. A gas that meets either of the following:
   1.1 ~~Is ignitable~~ Ignitableat 14.7 psia (101 kPa) when in a mixture of 13 percent or less by volume with air; or
   1.2 ~~Has a~~Aflammable range at 14.7 psia (101 kPa) with air of at least 12 percent, regardless of the lower limit, unless data shows compliance with Category 1B.
2. Category 1B. A gas that meets the flammability criteria for Category 1A, is not pyrophoric or chemically unstable, and meets one or more of the following:
   2.1 A lower flammability limit of more that 6 percent by volume of air, or
   2.2 A fundamental burning velocity of less than 3.9 inches/second (99mm/s).

The limits specified shall be determined at 14.7 psi (101 kPa) of pressure and a temperature of 68°F (20°C) in accordance with ASTM E681.

Where not otherwise specified, the term "flammable gas" includes both Category 1A and 1B.

[F] TABLE 307.1(1) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, c ~~j~~, i, l, m, ~~n, p~~

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[b]			USE-CLOSED SYSTEMS[b]		
			Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)
Combustible dust	NA	H-2	See Note ~~q~~o	NA	NA	See Note ~~q~~o	NA	NA
Combustible fiber ~~q~~o	Loose	H-3	(100)	NA	NA	(100)	NA	NA
	Baled ~~o~~		(1,000)			(1,000)		
Combustible liquid ~~c,~~ i ~~n~~	II	H-2 or H-3	NA	120[d, e]	NA	NA	120[d]	NA
	IIIA	H-2 or H-3		330[d, e]			330[d]	
	IIIB	NA		13,200[e, f]			13,200[f]	
Cryogenic flammable	NA	H-2	NA	45[d]	NA	NA	45[d]	NA
Cryogenic inert	NA	NA	NA	NA	NL	NA	NA	NL
Cryogenic oxidizing	NA	H-3	NA	45[d]	NA	NA	45[d]	NA
Explosives	Division 1.1	H-1	1[e, g]	(1)[e, g]	NA	0.25[g]	(0.25) [g]	NA
	Division 1.2	H-1	1[e, g]	(1)[e, g]		0.25[g]	(0.25) [g]	
	Division 1.3	H-1 or H-2	5[e, g]	(5)[e, g]		1[g]	(1)[g]	
	Division 1.4	H-3	50[e, g]	(50)[e, g]		50[g]	(50)[g]	
	Division 1.4G	H-3	125[e, ~~k~~]	NA		NA	NA	
	Division 1.5	H-1	1[e, g]	(1)[e, g]		0.25[g]	(0.25) [g]	
	Division 1.6	H-1	1[e, g]	NA		NA	NA	
Flammable gas	Gaseous	H-2	NA	NA	1,000 [d, e]	NA	NA	1,000 [d, e]
	1A and 1B (High BV)[p]				162,500[d, e]			162,500[d, e]
	1B (Low) BV)[p]							
	Liquefied			(150) [d, e]	NA		(150) [d, e]	NA
	1A and 1B (High BV)[p]			(10,000)[d, e]			(10,000)[d, e]	
	1B (Low) BV)[p]							
Flammable liquid ~~c,~~ n	IA	H-2 or H-3	NA	30[d, e]	NA	NA	30[d]	NA
	IB and IC			120[d, e]			120[d]	
Flammable liquid, combination (IA, IB, IC) n	NA	H-2 or H-3	NA	120[d, e, h]	NA	NA	120[d, h]	NA
Flammable solid	NA	H-3	125[d, e]	NA	NA	125[d]	NA	NA
Inert gas	Gaseous	NA	NA	NA	NL	NA	NA	NL

Page: 1

Mod12248_TextOfModification.pdf

F12248Text Modification

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[b]			USE-CLOSED SYSTEMS[b]		
			Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)
	Liquefied	NA	NA	NA	NL	NA	NA	NL
Organic peroxide	UD	H-1	1[e, g]	(1)[e, g]	NA	0.25[g]	(0.25) [g]	NA
	I	H-2	5[d, e]	(5)[d, e]		1[d]	(1)[d]	
	II	H-3	50[d, e]	(50)[d, e]		50[d]	(50)[d]	
	III	H-3	125[d, e]	(125) [d, e]		125[d]	(125) [d]	
	IV	NA	NL	NL		NL	NL	
	V	NA	NL	NL		NL	NL	
Oxidizer	4	H-1	1[g]	(1)[e, g]	NA	0.25[g]	(0.25) [g]	NA
	3[j]	H-2 or H-3	10[d, e]	(10)[d, e]		2[d]	(2)[d]	
	2	H-3	250[d, e]	(250) [d, e]		250[d]	(250) [d]	
	1	NA	4,000[e, f]	(4,000) [e, f]		4,000[f]	(4,000) [f]	
Oxidizing gas	Gaseous	H-3	NA	NA	1,500 [d, e]	NA	NA	1,500[d, e]
	Liquefied			(150) [d, e]	NA		(150) [d, e]	NA
Pyrophoric	NA	H-2	4[e, g]	(4)[e, g]	50[e, g]	1[g]	(1)[g]	10[e, g]
Unstable (reactive)	4	H-1	1[e, g]	(1)[e, g]	10[e, g]	0.25[g]	(0.25) [g]	2[e, g]
	3	H-1 or H-2	5[d, e]	(5)[d, e]	50[d, e]	1[d]	(1)[d]	10[d, e]
	2	H-3	50[d, e]	(50)[d, e]	750[d, e]	50[d]	(50)[d]	750[d, e]
	1	NA	NL	NL	NL	NL	NL	NL
Water reactive	3	H-2	5[d, e]	(5)[d, e]	NA	5[d]	(5)[d]	NA
	2	H-3	50[d, e]	(50)[d, e]		50[d]	(50)[d]	
	1	NA	NL	NL		NL	NL	

For SI: 1 cubic foot = 0.028 m^3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

NL = Not Limited; NA = Not Applicable; UD = Unclassified Detonable.

a. For use of control areas, see Section 414.2.

b. The aggregate quantity in use and storage shall not exceed the quantity specified for storage.

c. For hazardous materials in Group B higher education laboratory occupancies in accordance with *Florida Fire Prevention Code*., ~~The quantities of alcoholic~~ sales occupancies shall not be limited provided the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales oc medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.

d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Se applies, the increase for both notes shall be applied accumulatively.

e. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, day boxes, gas cabinets, gas rooms or exhausted accordance with Section 5003.9.10 of the International Fire Code. Where Note d also applies, the increase for both notes shall be applied accumulatively.

f. Quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

g. Allowed only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

h. Containing not more than the maximum allowable quantity per control area of Class IA, IB or IC flammable liquids.

~~i. The maximum allowable quantity shall not apply to fuel oil storage complying with *Florida Fire Prevention Code.*~~

~~j.~~ i. Quantities in parentheses indicate quantity units in parentheses at the head of each column.

~~k.~~ j. A maximum quantity of 220 pounds of solid or 22 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purpos equipment when the storage containers and the manner of storage are approved.

~~l.~~ k. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 perce fireworks, including packaging, shall be used.

~~m.~~ l. For gallons of liquids, divide the amount in pounds by 10 in accordance with the *Florida Fire Prevention Code*..

~~n.~~ m. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 41

~~o.~~ n. For flammable and combustible liquid storage in Group M occupancy wholesale and retail sales uses, see Section 414.2.5.2. ~~Densely packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.~~

Page: 2

Mod12248_TextOfModification.pdf

F12248Text Modification

~~p.~~ ~~The following shall not be included in determining the maximum allowable quantities~~

~~1. Liquid or gaseous fuel in fuel tanks on vehicles.~~

~~2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with the International Fire Code.~~

~~3. Gaseous fuels in piping systems and fixed appliances regulated by the International Fuel Gas Code.~~

~~4. Liquid fuels in piping systems and fixed appliances regulated by the International Mechanical Code.~~

~~5. Alcohol-based hand rubs classified as Class I or II liquids in dispensers that are installed in accordance with Sections 5705.5 and 5705.5.1 of the International Fire Code. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents.~~

~~q.~~ o. Where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information p 414.1.3.

p. "High BV" Category 1B flammable gas has a burning velocity greater than 3.9 inches per second (10 cm/s). "Low BV" Catergory 1 B flammable gas has a b second (10 cm/s) or less, see Section 414.2.5.4 for flammable gas.

[F] TABLE 307.1(2) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A HEALTH HAZARD [a, c, ~~f~~, h, i]

MATERIAL	STORAGE [b]			USE-CLOSED SYSTEMS [b]			USE-OPEN SYS	
	Solid pounds [d, e, f]	Liquid gallons (pounds) [d, e, f]	Gas cubic feet at NTP (pounds) [d]	Solid pounds [d]	Liquid gallons (pounds) [d]	Gas cubic feet at NTP (pounds) [d]	Solid pounds [d]	Liqu (p
Corrosives	5,000	500	Gaseous 810[e]	5,000	500	Gaseous 810[e]	1,000	
			Liquefied (150)			Liquefied (150)		
Highly Toxic	10	(10)	Gaseous 20[g]	10	(10)	Gaseous 20[g]	3	
			Liquefied (4)[g]			Liquefied (4)[g]		
Toxic	500	(500)	Gaseous 810[e]	500	(500)	Gaseous 810[e]	125	
			Liquefied (150) [e]			Liquefied (150)[e]		

For SI: 1 cubic foot = 0.028 m^3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

a. For use of control areas, see Section 414.2.

b. The aggregate quantity in use and storage shall not exceed the quantity specified for storage.

c. For hazardous materials in Group B higher education laboratory occupancies in accordance with *Florida Fire Prevention Code*.
~~In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent b liquids and with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers n~~

d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance w Note e also applies, the increase for both notes shall be applied accumulatively.

e. Maximum allowable quantities shall be increased 100 percent where stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in Where Note d also applies, the increase for both notes shall be applied accumulatively.

f. For corrosive, highly toxic and toxic materials, stored or displayed in Group M occupancies or stored in Group S occupancies, see Section 414.2.5.1.
~~For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.~~

g. Allowed only where stored in approved exhausted gas cabinets or exhausted enclosures as specified in the *Florida Fire Prevention Code*.

h. Quantities in parentheses indicate quantity units in parentheses at the head of each column.

i. For gallons of liquids, divide the amount in pounds by 10 in accordance with the *Florida Fire Prevention Code*.

[F] 307.1.1 Occupancy Exemptions ~~Uses other than Group H.~~

Storage, use and handling of hazardous materials in accordance with Table 307.1.1 shall not be counted as contributing to Maximum Allowable Quantities and shall not cause classification of an occupancy to be Group H. Such storage, use and handling shall comply with applicable provisions of the *Florida Fire Prevention Code*. ~~An occupancy that stores, uses or handles *hazardous materials* as described in one or more of the following items shall not be classified as Group H, but shall be classified as the occupancy that it most nearly resembles.~~

~~1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the Florida Fire Prevention Code.~~

~~2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the Florida Fire Prevention Code.~~

~~3. Closed piping system containing flammable or combustible liquids or gases utilized for the operation of machinery or equipment.~~

~~4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment *listed* by an *approved* testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour *fire barriers* constructed in accordance with Section 707 or 1-hour *horizontal assemblies* constructed in accordance with Section 711, or both.~~

Page: 3

Mod12248_TextOfModification.pdf

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~~5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).~~

~~6. Liquor stores and distributors without bulk storage.~~

~~7. Refrigeration systems.~~

~~8. The storage or utilization of materials for agricultural purposes on the premises.~~

~~9. Stationary storage battery systems installed in accordance with the Florida Fire Prevention Code.~~

~~10. Corrosive personal or household products in their original packaging used in retail display.~~

~~11. Commonly used corrosive building materials.~~

~~12. Buildings and structures occupied for aerosol product storage shall be classified as Group S-1, provided that such buildings conform to the requirements of the Florida Fire Prevention Code.~~

~~13. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per *control area* in Group M or S occupancies complying with Section 414.2.5.~~

~~14. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the Florida Fire Prevention Code.~~

~~15. Mercantile occupancies offering for retail sale sparklers, novelties and trick noisemakers as defined at Section 791.01, Florida Statutes, and that are not defined as fireworks by Chapter 791, Florida Statutes. Storage of sparklers and other novelties or trick noisemakers as defined in Chapter 791, Florida Statutes, within mercantile occupancies shall be in accordance with Section 791.055, Florida Statutes.~~

~~16. Stationary fuel cell power systems installed in accordance with the Florida Fire Prevention Code.~~

~~17. Capacitor energy storage systems in accordance with the Florida Fire Prevention Code.~~

TABLE 307.1.1 HAZARDOUS MATERIAL EXEMPTIONS[a]

Material Classification	Occupancy or Application	Exemption
Combustible fiber	Baled Cotton	Densely packed baled cotton shall not be classified as combustible fiber, provided that the bales comply with the packing requirements of ISO 8115
Corrosive	Building materials	The quantity of commonly used building materials that are classified as corrosive materials is not limited
	Personal and household products	The quantity of personal and household products that are classified as corrosive materials is not limited in retail displays, provided that the products are in original packaging.
	Retail and wholesale sales occupancies	The quantity of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, is not limited. To qualify for this allowance, such materials shall be packaged in individual containers not exceeding 1.3 gallons.
Explosives	Groups B, F, M and S	Storage of special industrial explosive devices is not limited
	Groups M and R-3	Storage of black powder, smokeless propellant, and small arms primers is not limited
Flammable and combustible liquids and gases	Aerosols	Buildings and structures occupied for aerosol product storage, aerosol cooking spray products or plastic aerosol 3 products shall be classified as Group S-1
	Alcoholic beverages	The quantity of alcoholic beverages in liquor stores and distributors without bulk storage is not limited
		The quantity of alcoholic beverages in distilling or brewing of beverages is not limited
		The storage quantity of beer, distilled spirits and wines in barrels and casks is not limited
		The quantity of alcoholic beverages in retail and wholesale sales occupancies is not limited. To qualify for this allowance, beverages shall be packaged in individual containers not exceeding 1.3 gallons
	Cleaning establishments with combustible liquid solvents	The quantity of combustible liquid solvents used in closed systems and having a flash point at or above 140°F (60°C) is not limited. To qualify for this allowance, equipment shall be listed by an approved testing agency and the occupancy shall be separated from all other areas of the building by 1-hour fire barriers constructed in accordance with Section 707 or 1-hour horizontal assemblies constructed in accordance with Section 711, or both
		The quantity of combustible liquid solvents having a flash point at or above 200°F (93°C) is not limited
	Closed piping systems	The quantity of flammable and combustible liquids and gases utilized for the operation of machinery or equipment is not limited
	Fuel	The quantity of liquid or gaseous fuel in fuel tanks on vehicles or motorized equipment is not limited
		The quantity of gaseous fuels in piping systems and fixed appliances regulated by the International Fuel Gas Code is not limited
		The quantity of liquid fuels in piping systems and fixed appliances regulated by the

Page: 4

Mod12248_TextOfModification.pdf

F12248Text Modification

		International Mechanical Code is not limited
	Fuel oil	The quantity of fuel oil storage complying with Section 605.4.2 of the International Fire Code is not limited
	Flammable finishing operations using flammable and combustible liquids	Buildings and structures occupied for the application of flammable finishes. Such buildings and areas shall comply with Section 416
	Hand sanitizer	The quantity of alcohol-based hand rubs classified as Class I or II liquids in dispensers installed in accordance with Sections 5705.5 and 5705.5.1 of the International Fire Code is not limited. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents
	Retail and wholesale sales occupancies with flammable and combustible liquids	The quantity of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, is not limited To qualify for this allowance, such materials shall be packaged in individual containers not exceeding 1.3 gallons.
Highly toxic and toxic materials	Retail and wholesale sales occupancies	The quantity of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, is not limited. To qualify for this allowance, such materials shall be packaged in individual containers not exceeding 1.3 gallons.
Any	Agricultural materials	The quantity of agricultural materials stored or utilizated for agricultural purposes on the premises is not limited
	Energy storage	The quantity of hazardous materials in stationary storage battery systems is not limited
		The quantity of hazardous materials in stationary fuel cell power systems is not limited
		The quantity of hazardous materials in capacitor energy storage systems is not limited
	Refrigeration systems	The quantity of refrigerants in refrigeration systems is not limited.

For SI: 1 cubic foot = 0.028 m^3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

a. Exempted materials and conditions listed in this table are required to comply with applicable provisions of the *Florida Fire Prevention Code*.

[F] 414.1 General.

~~The provisions of Sections 414.1 through 414.6 shall apply to buildings~~ Buildings and structures occupied for the manufacturing, processing, dispensing, use or storage of *hazardous materials* shall comply with Sections 414.1 through 414.6.
Exception: Exemptions listed in Table 307.1.1 shall not be required to comply with Section 414.

[F] 415.1 ~~General~~ Scope.

Occupancies classified as Group H-1, H-2, H-3, H-4 and H-5 in accordance with Section 307 shall comply with ~~The provisions of~~ Sections 415.1 through 415.11 ~~shall apply to the storage and use of hazardous materials in excess of the maximum allowable quantities per *control area* listed in Section 307.1~~.
Buildings and structures with an occupancy in Group H shall also comply with the applicable provisions of Section 414 and the *Florida Fire Prevention Code*.

414.2.5.4 Flammable gas.

The aggregate quantity of Category 1B flammable gas having a burning velocity of 3.9 in/s (10 cm/s) or less stored and displayed within a single *control area* of a Group M occupancy or stored in a single *control area* of a Group S occupancy is allowed to exceed the *maximum allowable quantities per control area* specified in Table 307.1(1) without classifying the building or use as a Group H occupancy, provided the materials are stored and displayed in accordance with the *Florida Fire Prevention Code* and quantities do not exceed the amounts specified in Table 414.2.5(4).

TABLE 414.2.5(4) MAXIMUM ALLOWABLE QUANTITY OF LOW BURNING VELOCITY CATEGORY 1B FLAMMABLE GAS IN GROUP M AND S OCCUPANCIES PER CONTROL AREA [a]

FLAMMABLE GAS CATEGORY	MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA	
	Sprinklered in Accordance with Note b	Nonsprinklered
Category 1B (Low BV)[e] Gaseous Liquefied	390,000 cu. ft. 40,000 lbs.[c]	195,000 cu. ft. 20,000 lbs.

For SI: 1 pound = 0.454 kg, 1 cu. ft. = 0.028 m3

a. Control areas shall be separated from each other by not less than a 1-hour fire barrier.

Page: 5

Mod12248_TextOfModification.pdf

F12248Text Modification

b. The building shall be equipped throughout with an approved automatic sprinkler system with minimum sprinkler design density of Ordinary Hazard Group 2 in gases are stored or displayed.

c. Where storage areas exceed 50,000 square feet in area, the maximum allowable quantities area allowed to be increased by 2 percent for each 1,000 square fe square feet, up to not more than 100 percent of the table amounts. Separation of control areas is not required. The aggregate amount shall not exceed 80,000

d. "Low BV" Category 1B flammable gas has a burning velocity of 3.9 in/s (10 cm/s) or less.

Page: 6

Mod12248_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

13

F11918

Date Submitted	02/05/2025	**Section**	403.5.3	**Proponent**	John Woestman
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Mod F10607 approved by the Commission includes similar technical revisions. Mod also being proposed for Section 1010.2.7 with similar editorial revisions.

Summary of Modification

The technical revisions in 403.5.3 add two new conditions where the “shall be permitted” locks on stairway doors in high-rise buildings are required to unlock to permit re-entry from the stairway into the building, and are consistent with F10607.

Rationale

The technical revisions in 403.5.3 add two new conditions where the “shall be permitted” locks on stairway doors in high-rise buildings are required to unlock to permit re-entry from the stairway into the building. These technical revisions are consistent with revisions in F11005 for the 2024 IBC and are consistent with F10607 approved by the Commission for the 2026 FBC-B in Section 1010.2.7 Item 3. All other revisions in these sections are editorial revisions from IBC proposal E53-24 tentatively approved as modified by committee for the 2027 IBC. In these sections there’s language that permits stairway doors, where they comply with specified conditions, to be locked preventing passage from the stairway into the building or structure. But, the language used is less clear than the language used in the 1st sentence of this paragraph of this reason statement. Several edits reflect the language of the 1st sentence of this paragraph.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Enforcement of the code may take a bit more time to verify all three conditions are met where stairway doors in high-rise buildings are permitted to be locked to control re-entry into the building from the stairway.

Impact to building and property owners relative to cost of compliance with code

The proposal may increase the cost of construction of high-rise buildings by requiring two additional conditions to be satisfied where stairway doors are permitted to be locked preventing re-entry into the building.

Impact to industry relative to the cost of compliance with code

The proposal may increase the cost of construction of high-rise buildings by requiring two additional conditions to be satisfied where stairway doors are permitted to be locked preventing re-entry into the building.

Impact to small business relative to the cost of compliance with code

The proposal may increase the cost of construction of high-rise buildings by requiring two additional conditions to be satisfied where stairway doors are permitted to be locked preventing re-entry into the building.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Improves life safety by adding two additional conditions where stairway doors are required to unlock permitting re-entry into the building from stairways in high-rise buildings.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves life safety by adding two additional conditions where stairway doors are required to unlock permitting re-entry into the building from stairways in high-rise buildings.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

F11918Text Modification

403.5.3 Stairway door operation.

Stairway doors other than the exit discharge doors shall be permitted to be locked to prevent passage from the stairway ~~side~~ into the building. Stairway doors that are locked to prevent passage from the stairway ~~side~~ into the building shall be capable of being unlocked ~~simultaneously~~ without unlatching ~~upon a signal from the fire command center~~ . when any of the following conditions occur:

1. Individually or simultaneously upon a signal from the fire command center.

2. Simultaneously upon activation of a fire alarm signal in an area served by the stairway.

3. Upon failure of the power supply to the lock or the locking system.

403.5.3.1 Stairway communication system.

A telephone or other two-way communications system connected to an approved constantly attended station shall be provided at not less than every fifth floor in each stairway where the ~~doors to the~~ stairway doors are locked to prevent passage from the stairway into the building.

Page: 1

Mod11918_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

14

F12152

Date Submitted	02/14/2025	**Section**	414	**Proponent**	Amanda Hickman
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

12145-12151

Summary of Modification

Updates code regarding A2L.

Rationale

A2L refrigerants are low burning velocity, mildly flammable gases. As the air conditioning and refrigeration industries transition to lower global warming potential refrigerants, applications where A1 refrigerants are currently being used will begin using A2Ls. This code change recognizes that even though these refrigerants are categorized as flammable gases, their low burning velocities give them characteristics more similar to A1 refrigerants than flammable gases such as hydrocarbons. As such, this code change allows the warehousing, storage and use of A2L refrigerants without the need to classify occupancies as Group H. This State Code Amendment Proposal is consistent with updates that have been approved in the 2024 International Building and Fire Codes and the 2024 edition of NFPA 1.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Will assist code enforcement regarding A2L products.

Impact to building and property owners relative to cost of compliance with code
These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Impact to industry relative to the cost of compliance with code
These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Impact to small business relative to the cost of compliance with code
These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Updates code to ensure air conditioning products are permitted in the state of Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Updates code to ensure air conditioning products are permitted in the state of Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Only permits the use of A2L products.

Does not degrade the effectiveness of the code

No. Only permits the use of A2L products.

F12152Text Modification

See attached PDF.

Page: 1

Mod12152_TextOfModification.pdf

F12152Text Modification

Modification # 12152

CHAPTER 4: SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

[F] 414.2.5 Hazardous material in Group M display and storage areas and in Group S storage areas. ~~The aggregate quantity of nonflammable solid and nonflammable or noncombustible liquid hazardous materials permitted within a single control area of a Group M display and storage area, a Group S storage area or an outdoor control area is permitted to exceed the maximum allowable quantities per control area specified in Tables 307.1(1) and 307.1(2) without classifying the building or use as a Group H occupancy, provided that the materials are displayed and stored in accordance with the Florida Fire Prevention Code and quantities do not exceed the maximum allowable specified in Table 414.2.5(1).~~
~~In Group M occupancy wholesale and retail sales uses, indoor storage of flammable and combustible liquids shall not exceed the maximum allowable quantities per control area as indicated in Table 414.2.5(2), provided that the materials are displayed and stored in accordance with the Florida Fire Prevention Code.~~
~~The maximum quantity of aerosol products in Group M occupancy retail display areas, storage areas adjacent to retail display areas and retail storage areas shall be in accordance with the Florida Fire Prevention Code.~~ *Hazardous materials* located in Group M and Group S occupancies shall be in accordance with Sections 414.2.5.1 through 414.2.5.4.

[F] 414.2.5.1 Nonflammable solids and nonflammable and noncombustible liquids. The aggregate quantity of nonflammable solid and nonflammable or noncombustible liquid hazardous materials permitted within a single control area of a Group M display and storage area, a Group S storage area or an outdoor control area is permitted to exceed the maximum allowable quantities per control area specified in Tables 307.1(1) and 307.1(2) without classifying the building or use as a Group H occupancy, provided that the materials are displayed and stored in accordance with the Florida Fire Prevention Code and quantities do not exceed the maximum allowable specified in Table 5003.1.1(1).

[F] 414.2.5.2 Flammable and combustible liquids. In Group M occupancy wholesale and retail sales uses, indoor storage of flammable and combustible liquids shall not exceed the maximum allowable quantities per control area as indicated in Table 5003.1.1(1), provided that the materials are displayed and stored in accordance with the Florida Fire Prevention Code.

[F] 414.2.5.3 Aerosol products, aerosol cooking spray products or plastic aerosol 3 products. The maximum quantity of aerosol products, aerosol cooking spray products or plastic aerosol 3 products in Group M occupancy retail display areas, storage areas adjacent to retail display areas and retail storage areas shall be in accordance with the Florida Fire Prevention Code.

[F] 414.2.5.4 Flammable gas.
The aggregate quantity of Category 1B flammable gas having a burning velocity of 3.9 in/s (10 cm/s) or less stored and displayed within a single *control area* of a Group M occupancy or stored in a single *control area* of a Group S occupancy is allowed to exceed the *maximum allowable quantities per control area* specified in Table 307.1(1) without classifying the building or use as a Group H occupancy, provided the materials are stored and displayed in accordance with the Florida Fire Prevention *Code* and quantities do not exceed the amounts specified in Table 414.2.5(3).

Page: 1

Mod_12152_Text_12152.pdf

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TABLE 414.2.5(3) MAXIMUM ALLOWABLE QUANTITY OF LOW BURNING VELOCITY CATEGORY 1B FLAMMABLE GAS IN GROUP M AND S OCCUPANCIES PER CONTROL AREA [a]

FLAMMABLE GAS CATEGORY	MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA	
	Sprinklered in Accordance with Note b	Nonsprinklered
Category 1B (Low BV)[e]		
Gaseous	390,000 cu. ft.	195,000 cu. ft.
Liquefied	40,000 lbs.[c]	20,000 lbs.

For SI: 1 pound = 0.454 kg, 1 cubic foot = 0.02832 m^3, 1 square foot = 0.093 m^2, 1 inch/second = 2.5641 cm/s.

a. Control areas shall be separated from each other by not less than a 1-hour fire barrier.
b. The building shall be equipped throughout with an approved automatic sprinkler system with minimum sprinkler design density of Ordinary Hazard Group 2 in the area where flammable gases are stored or displayed.
c. Where storage areas exceed 50,000 square feet in area, the maximum allowable quantities area allowed to be increased by 2 percent for each 1,000 square feet of area in excess of 50,000 square feet, up to not more than 100 percent of the table amounts. Separation of control areas is not required. The aggregate amount shall not exceed 80,000 pounds.
d. "Low BV" Category 1B flammable gas has a burning velocity of 3.9 in/s (10 cm/s) or less.

[F] TABLE 414.5.1 EXPLOSION CONTROL REQUIREMENTS[a, h]

MATERIAL	CLASS	EXPLOSION CONTROL METHODS	
		Barricade construction	Explosion (deflagration) venting or explosion (deflagration) prevention systems[b]
HAZARD CATEGORY			
Combustible dusts[c]	—	Not Required	Required
Cryogenic flammables	—	Not Required	Required
Explosives	Division 1.1	Required	Not Required
	Division 1.2	Required	Not Required
	Division 1.3	Not Required	Required -
	Division 1.4	Not Required	Required
	Division 1.5	Required	Not Required
	Division 1.6	Required	Not Required
Flammable gas	Gaseous	Not Required	Required[b]

Page: 2

Mod_12152_Text_12152.pdf

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	Liquefied	Not Required	Required[b]
Flammable liquid	IA[d]	Not Required	Required
	IB[e]	Not Required	Required
Organic peroxides	U	Required	Not Permitted
	I	Required	Not Permitted
Oxidizer liquids and solids	4	Required	Not Permitted
Pyrophoric gas	—	Not Required	Required
Unstable (reactive)	4	Required	Not Permitted
	3 Detonable	Required	Not Permitted
	3 Nondetonable	Not Required	Required
Water-reactive liquids and solids	3	Not Required	Required
	2[g]	Not Required	Required
SPECIAL USES			
Acetylene generator rooms	—	Not Required	Required
~~Energy Storage Systems~~	~~—~~	~~Not Required~~	~~Required~~
Grain processing	—	Not Required	Required
Liquefied petroleum gas-distribution facilities	—	Not Required	Required
Where explosion hazards exist[f]	Detonation	Required	Not Permitted
	Deflagration	Not Required	Required

a. See Section 414.1.3.
b. See the Florida Fire Prevention Code.
c. Combustible dusts where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with ~~the~~ Florida Fire Prevention Code. See definition of "Combustible dust" in Chapter 2.
d. Storage or use.
e. In open use or dispensing.
f. Rooms containing dispensing and use of hazardous materials when an explosive environment can occur because of the characteristics or nature of the hazardous materials or as a result of the dispensing or use process.
g. A method of explosion control shall be provided when Class 2 water-reactive materials can form potentially explosive mixtures.

Page: 3

Mod_12152_Text_12152.pdf

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h. ~~Explosion venting is not required for Group H-5 fabrication areas complying with Section 415.11.1 and the Florida Fire Prevention Code.~~ Not required for Category 1B Flammable Gases having a burning velocity not exceeding 3.9 in/s (10 cm/s).

i. ~~Where explosion control is required in the Florida Fire Prevention Code.~~

Page: 4

Mod_12152_Text_12152.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

15

F12234

Date Submitted	02/17/2025	**Section**	403.5.3.1	**Proponent**	Jennifer Hatfield
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification adds language to mandate compliance with the recently updated and released (June 12, 2020) edition of UL 2525 Standard for Two-Way Emergency Communications Systems for Rescue Assistance.

Rationale

This proposal adds language to mandate compliance with the recently updated and released (June 12, 2020) edition of UL 2525 Standard for Two-Way Emergency Communications Systems for Rescue Assistance, which provides updated and adequate product listing requirements for these critical systems. This will provide guidance to code officials and design professionals.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

Will increase the cost of construction. However, these cost increases are justified as the code requirements to date have not provided the means of designing and installing these systems.

Impact to industry relative to the cost of compliance with code

Will increase the cost of construction. However, these cost increases are justified as the code requirements to date have not provided the means of designing and installing these systems.

Impact to small business relative to the cost of compliance with code

Will increase the cost of construction. However, these cost increases are justified as the code requirements to date have not provided the means of designing and installing these systems.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes as is based on life safety and sustainability. We need these systems to operate when they are needed and this should improve that reliability.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes as is based on life safety and sustainability. We need these systems to operate when they are needed and this should improve that reliability.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12234Text Modification

403.5.3.1 Stairway communication system.

A telephone or other two-way communications system connected to an *approved constantly attended station* shall be provided at not less than every fifth floor in each *stairway* where the doors to the *stairway* are locked. Systems shall be listed in accordance with UL 2525 and installed in accordance with NFPA 72.

CHAPTER 35
REFERENCED STANDARDS

UL 2525-2020	UL STANDARD FOR SAFETY Two-Way Emergency Communications systems for Rescue Assistance

Page: 1

Mod12234_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

16

F12249

Date Submitted	02/17/2025	**Section**	403.3.2	**Proponent**	Cade Booth
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12249Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all buildings that are more than 420 feet (128 000 mm) in building height and buildings of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in building height, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 1

Mod12249_TextOfModification.pdf

F12249Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the *noncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

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glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R[h]	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24

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F12249Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m².

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

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F12249Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12249_Text_FBC Mass Timber Full Package - ch 4.pdf

F12249Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12249_Rationale_FBC Mass Timber Summary.pdf

F12249Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12249_Rationale_FBC Mass Timber Summary.pdf

F12249Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12249_Rationale_FBC Mass Timber Summary.pdf

F12249Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12249_Rationale_FBC Mass Timber Rationale.pdf

F12249Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12249_Rationale_FBC Mass Timber Rationale.pdf

F12249Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12249_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

17

F12271

Date Submitted	02/18/2025	**Section**	403.3.2	**Proponent**	Cade Booth
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12271Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all buildings that are more than 420 feet (128 000 mm) in building height and buildings of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in building height, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 1

Mod12271_TextOfModification.pdf

F12271Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1$ **(Equation 6-1)**

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

FBC 9th edition – Mass Timber Package

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R[h]	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

Mod_12271_Text_403.3.2.pdf

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21
Mod_12271_Text_403.3.2.pdf

F12271Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12271_Text_403.3.2.pdf

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

Mod_12271_Text_403.3.2.pdf

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12271_Text_403.3.2.pdf

F12271Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12271_Text_403.3.2.pdf

F12271Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12271_Rationale_FBC Mass Timber Summary.pdf

F12271Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12271_Rationale_FBC Mass Timber Summary.pdf

F12271Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12271_Rationale_FBC Mass Timber Summary.pdf

F12271Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12271_Rationale_FBC Mass Timber Rationale.pdf

F12271Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12271_Rationale_FBC Mass Timber Rationale.pdf

F12271Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12271_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

18

F12175

Date Submitted	02/16/2025	**Section**	504.4	**Proponent**	Andrew Klein
Chapter	5	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

n/a

Summary of Modification

This modification is submitted on behalf of the Self Storage Association. This code change proposal returns the maximum number of stories of sprinklered Type IIB & IIIB Group S-1 occupancy buildings to the 2006 IBC model code (& 2007 FBC) value of 4 stories.

Rationale

This code change proposal returns the maximum number of stories of sprinklered S-1 buildings to the 2006 IBC value of 4 stories. In the 2009 IBC, the Code Technology Committee Balanced Fire Protection Features Study Group reduced the maximum number of stories permitted in some occupancies for unprotected construction (IIB & IIIB). The justification was that the I-Codes permitted only a single-story sprinkler height increase, so in order to match the permitted number of stories in the legacy codes for sprinklered buildings, unsprinklered buildings exceeded what was previously allowed. At the time, the study group chose not to propose modifying the sprinkler increase in the IBC. This more restrictive code change was adopted in Florida in the 2010 FBC. The reformatting of the height-and-area provisions of the Code in the 2015 IBC allowed the return of the 2006 maximum number of stories (4) for a sprinklered building without affecting unsprinklered buildings (remaining at 2). This proposal seeks only to return to the 2007 FBC story limit for sprinklered, S-1 noncombustible Type IIB & IIIB buildings, just as the model code has done. These buildings were commonly constructed prior to the enforcement of the 2010 FBC, and we have seen no adverse effect on life safety or property protection.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No significant change - code officials will adjust reviews based on the new height limitations.

Impact to building and property owners relative to cost of compliance with code

New construction costs of 4-story S-1 occupancy buildings will be significantly lower, as fire-resistance rated construction will not be required.

Impact to industry relative to the cost of compliance with code

Construction of new S-1 occupancies will be lower, allowing the savings to pass through to tenants of the buildings.

Impact to small business relative to the cost of compliance with code

Many storage facilities are owned by small businesses, who will benefit from lower construction costs of 4-story facilities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The additional story has had no adverse effect on safety, therefore this modification is justified from a safety perspective.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This modification allows better, more cost-effective construction construction while maintaining an equivalent level of safety.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This modification increases both IIB and IIIB sprinklered S-1 occupancy buildings back to the 2007 FBC height allowance, and therefore does not favor any particular materials.

Does not degrade the effectiveness of the code

This modification aims to return the Code to the 2007 level, which has proven to be effective.

F12175Text Modification

TABLE504.4

ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE[a, b]

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION										
	SEE FOOTNOTES	TYPE I		TYPE II		TYPE III		TYPE IV	TYPEV	
		A	B	A	B	A	B	HT	A	B
S-1	NS	UL	11	4	2	3	2	4	3	1
	S	UL	12	5	~~3~~4	4	~~3~~4	5	4	2

Page: 1

Mod12175_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

19

F12246

Date Submitted	02/17/2025	**Section**	503.1.4	**Proponent**	Jennifer Hatfield
Chapter	5	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification provides for enclosures over occupied roof areas.

Rationale

This proposal creates a subsection 503.1.4.1 to separate the 2nd part of Section 503.1.4 and it adds exception #2 to permit guard height greater than 48 inches. The limit on the guard height was based on fire department access to the roof for low-rise buildings. Once the roof deck is higher than fire ladder access (high-rise buildings), then there is no longer justification for this limitation. There has been concerns that higher guards are needed on higher roofs to prevent people from jumping off the roof deck and/or to allow for wind breaks to limit items blowing off the roof deck and falling on people below. There are universities and colleges in this nation that are increasing the heights of parapets and/or guards on occupied roofs and parking garage decks due to suicides. - https://www.usforacle.com/2023/11/06/as-usf-implements-suicide-prevention-measures-do-students-and-faculty-think-its-enough/ - https://www.nicholsonstudentmedia.com/news/ucf-installs-barriers-on-the-tops-of-four-garages/article_0b4d183a-80e3-11ef-8119-17048eee2f39.html This proposal should not conflict with the Florida Fire Prevention Code.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

The code change proposal will not increase or decrease the cost of construction. It simply allows additional design options for guards around roof decks.

Impact to industry relative to the cost of compliance with code

The code change proposal will not increase or decrease the cost of construction. It simply allows additional design options for guards around roof decks.

Impact to small business relative to the cost of compliance with code

The code change proposal will not increase or decrease the cost of construction. It simply allows additional design options for guards around roof decks.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes, as allows for higher guards on higher roofs to prevent people from jumping off the roof deck and/or to allow for wind breaks to limit items blowing off the roof deck and falling on people below.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, provides for additional safety measures.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12246Text Modification

503.1.4 Occupied roofs.

A roof level or portion thereof shall be permitted to be used as an occupied roof provided the occupancy of the roof is an occupancy that is permitted by Table 504.4 for the story immediately below the roof. The area of the occupied roofs shall not be included in the building area as regulated by Section 506.

Exceptions:

1. The occupancy located on an occupied roof shall not be limited to the occupancies allowed on the story immediately below the roof where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and occupant notification in accordance with Sections 907.5.2.1 and 907.5.2.3 is provided in the area of the occupied roof. Emergency voice/alarm communication system notification per Section 907.5.2.2 shall also be provided in the area of the occupied roof where such system is required elsewhere in the building.
2. Assembly occupancies shall be permitted on roofs of open parking garages of Type I or Type II construction, in accordance with the exception to Section 903.2.1.6.

~~Elements or structures enclosing the occupied roof areas shall not extend more than 48 inches (1220 mm) above the surface of the occupied roof.~~

~~**Exception:** Penthouses constructed in accordance with Section 1510.2 and towers, domes, spires and cupolas constructed in accordance with Section 1510.5.~~

503.1.4.1 Enclosures over occupied roof areas.

Elements or structures enclosing the occupied roof areas shall not extend more than 48 inches (1220 mm) above the surface of the occupied roof.

Exceptions:

1. Penthouses constructed in accordance with Section 1511.2 and towers, domes, spires and cupolas constructed in accordance with Section 1511.5
2. Elements or structures enclosing the occupied roof areas shall be permitted to be greater than 48 inches (1219 mm) above the surface of the occupied roof where the roof deck is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Page: 1

Mod12246_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

20

F12259

Date Submitted	02/18/2025	**Section**	5	**Proponent**	Cade Booth
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12259Text Modification

CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504

BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]

ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A,B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1 Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1 Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R[a]	NS[d, h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.

b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.

c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.

d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.

e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.

f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.

g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.

h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

TABLE 504.4[a, b]

ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1

Page: 1

Mod12259_TextOfModification.pdf

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	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c,d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c,d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c,d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c,d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c,d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d,f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d,g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

TABLE 504.4[a, b]— continued

ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.

b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.

c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.

d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.

e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.

f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.

g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.

h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

SECTION 506

BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]

Page: 2

Mod12259_TextOfModification.pdf

F12259Text Modification

ALLOWABLE AREA FACTOR (A_f = NS, S1, S13R, or SM, as applicable)

IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS S1 SM	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c] S1	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
H-2	NS[c] S1 SM	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
H-3	NS[c] S1 SM	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
H-4	NS[c,d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c,d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

TABLE 506.2[a, b]— continued
ALLOWABLE AREA FACTOR (A_f = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d,e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d,f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d,e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d,g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d,h] S13R	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d,h] S13R	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d,h] S13R S1 SM	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
R-4	NS[d,h] S13R	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000

Page: 3

Mod12259_TextOfModification.pdf

F12259Text Modification

S-1	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
S-2	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
U	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = B with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.

b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.

c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.

d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.

e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.

f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.

g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.

h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509

INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 4

Mod12259_TextOfModification.pdf

F12259Text Modification

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Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the *noncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

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glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R_h	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24

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F12259Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

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F12259Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

CHAPTER 35

REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12259_Text_FBC Mass Timber Full Package - ch 5.pdf

F12259Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12259_Rationale_FBC Mass Timber Summary.pdf

F12259Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12259_Rationale_FBC Mass Timber Summary.pdf

F12259Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12259_Rationale_FBC Mass Timber Summary.pdf

F12259Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12259_Rationale_FBC Mass Timber Rationale.pdf

F12259Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12259_Rationale_FBC Mass Timber Rationale.pdf

F12259Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12259_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

21

F12283

Date Submitted	02/18/2025	**Section**	504.3	**Proponent**	Cade Booth
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12283Text Modification

CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise table as follows:

TABLE 504.3[a]

ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A,B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	- 120	- 90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1 Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1 Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R_h	NS[d, h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an

Page: 1

Mod12283_TextOfModification.pdf

F12283Text Modification

automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the Florida Building Code, Existing Building.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the Florida Fire Prevention Code.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 2

Mod12283_TextOfModification.pdf

F12283Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12283_Text_504.3.pdf

F12283Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12283_Text_504.3.pdf

F12283Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12283_Text_504.3.pdf

F12283Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12283_Text_504.3.pdf

F12283Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12283_Text_504.3.pdf

F12283Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12283_Text_504.3.pdf

F12283Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1$ **(Equation 6-1)**

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12283_Text_504.3.pdf

F12283Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12283_Text_504.3.pdf

F12283Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12283_Text_504.3.pdf

F12283Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12283_Text_504.3.pdf

F12283Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12283_Text_504.3.pdf

F12283Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12283_Text_504.3.pdf

F12283Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12283_Text_504.3.pdf

F12283Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12283_Text_504.3.pdf

F12283Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12283_Text_504.3.pdf

F12283Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12283_Text_504.3.pdf

F12283Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12283_Text_504.3.pdf

F12283Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12283_Text_504.3.pdf

F12283Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12283_Text_504.3.pdf

F12283Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R[h]	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
Mod_12283_Text_504.3.pdf

F12283Text Modification

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Mod_12283_Text_504.3.pdf Page: 21

F12283Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

Page: 22

Mod_12283_Text_504.3.pdf

F12283Text Modification

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23
Mod_12283_Text_504.3.pdf

F12283Text Modification

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24
Mod_12283_Text_504.3.pdf

F12283Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12283_Text_504.3.pdf

F12283Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12283_Text_504.3.pdf

F12283Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12283_Text_504.3.pdf

F12283Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12283_Text_504.3.pdf

F12283Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12283_Text_504.3.pdf

F12283Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12283_Text_504.3.pdf

F12283Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12283_Text_504.3.pdf

F12283Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12283_Rationale_FBC Mass Timber Summary.pdf

F12283Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12283_Rationale_FBC Mass Timber Summary.pdf

F12283Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12283_Rationale_FBC Mass Timber Summary.pdf

F12283Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12283_Rationale_FBC Mass Timber Rationale.pdf

F12283Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12283_Rationale_FBC Mass Timber Rationale.pdf

F12283Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12283_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

22

F12284

Date Submitted	02/18/2025	**Section**	504.4	**Proponent**	Cade Booth
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12284Text Modification

CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise table as follows:

TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c,d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c,d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c,d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c,d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c,d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1Condition1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1Condition2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d,f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d,g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OFC ONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3

Page: 1

Mod12284_TextOfModification.pdf

F12284Text Modification

R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the Florida Building Code, Existing Building.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the Florida Fire Prevention Code.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

Page: 2

Mod12284_TextOfModification.pdf

F12284Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12284_Text_504.4.pdf

F12284Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12284_Text_504.4.pdf

F12284Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12284_Text_504.4.pdf

F12284Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12284_Text_504.4.pdf

F12284Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12284_Text_504.4.pdf

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less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12284_Text_504.4.pdf

F12284Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1$ **(Equation 6-1)**

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12284_Text_504.4.pdf

F12284Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12284_Text_504.4.pdf

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glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12284_Text_504.4.pdf

F12284Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12284_Text_504.4.pdf

F12284Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12284_Text_504.4.pdf

F12284Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12284_Text_504.4.pdf

F12284Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12284_Text_504.4.pdf

F12284Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12284_Text_504.4.pdf

F12284Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12284_Text_504.4.pdf

F12284Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12284_Text_504.4.pdf

F12284Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12284_Text_504.4.pdf

F12284Text Modification

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CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18
Mod_12284_Text_504.4.pdf

F12284Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12284_Text_504.4.pdf

F12284Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R[h]	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
Mod_12284_Text_504.4.pdf

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

18

Mod_12284_Text_504.4.pdf Page: 21

F12284Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12284_Text_504.4.pdf

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

Mod_12284_Text_504.4.pdf

F12284Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

21

Page: 24

Mod_12284_Text_504.4.pdf

F12284Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12284_Text_504.4.pdf

F12284Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12284_Text_504.4.pdf

F12284Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12284_Text_504.4.pdf

F12284Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12284_Text_504.4.pdf

F12284Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12284_Text_504.4.pdf

F12284Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12284_Text_504.4.pdf

F12284Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12284_Text_504.4.pdf

F12284Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12284_Rationale_FBC Mass Timber Summary.pdf

F12284Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12284_Rationale_FBC Mass Timber Summary.pdf

F12284Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12284_Rationale_FBC Mass Timber Summary.pdf

F12284Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12284_Rationale_FBC Mass Timber Rationale.pdf

F12284Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12284_Rationale_FBC Mass Timber Rationale.pdf

F12284Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12284_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

23

F12285

Date Submitted	02/18/2025	**Section**	506.2	**Proponent**	Cade Booth
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12285Text Modification

CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

SECTION 506
BUILDING AREA Revise table as follows: TABLE 506.2a, b ALLOWABLE AREA FACTOR (At = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

Revise table as follows:

TABLE 506.2[a,b]

ALLOWABLE AREA FACTOR (At = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS S1 SM	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c] S1	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
H-2	NS[c] S1 SM	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
H-3	NS[c] S1 SM	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
H-4	NS[c,d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c,d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

Page: 1

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F12285Text Modification

(continued)

TABLE 506.2[a,b]—continued

ALLOWABLE AREA FACTOR (At = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS S1 SM	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c] S1	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
H-2	NS[c] S1 SM	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
H-3	NS[c] S1 SM	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
H-4	NS[c,d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c,d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with

Page: 2

Mod12285_TextOfModification.pdf

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Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.

b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.

c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.

d. The NS value is only for use in evaluation of existing building area in accordance with the Florida Building Code, Existing Building.

e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.

f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the Florida Fire Prevention Code.

g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.

h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 3

Mod12285_TextOfModification.pdf

F12285Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12285_Text_506.2.pdf

F12285Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12285_Text_506.2.pdf

F12285Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12285_Text_506.2.pdf

F12285Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12285_Text_506.2.pdf

F12285Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12285_Text_506.2.pdf

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less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12285_Text_506.2.pdf

F12285Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12285_Text_506.2.pdf

F12285Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12285_Text_506.2.pdf

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glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12285_Text_506.2.pdf

F12285Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12285_Text_506.2.pdf

F12285Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12285_Text_506.2.pdf

F12285Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12285_Text_506.2.pdf

F12285Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12285_Text_506.2.pdf

F12285Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12285_Text_506.2.pdf

F12285Text Modification

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CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12285_Text_506.2.pdf

F12285Text Modification

CHAPTER 33

SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12285_Text_506.2.pdf

F12285Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12285_Text_506.2.pdf

F12285Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12285_Text_506.2.pdf

F12285Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12285_Text_506.2.pdf

F12285Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R[h]	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
Mod_12285_Text_506.2.pdf

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Mod_12285_Text_506.2.pdf Page: 21

F12285Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12285_Text_506.2.pdf

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23
Mod_12285_Text_506.2.pdf

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FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24
Mod_12285_Text_506.2.pdf

F12285Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12285_Text_506.2.pdf

F12285Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12285_Text_506.2.pdf

F12285Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12285_Text_506.2.pdf

F12285Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12285_Text_506.2.pdf

F12285Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12285_Text_506.2.pdf

F12285Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12285_Text_506.2.pdf

F12285Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12285_Text_506.2.pdf

F12285Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12285_Rationale_FBC Mass Timber Summary.pdf

F12285Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12285_Rationale_FBC Mass Timber Summary.pdf

F12285Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12285_Rationale_FBC Mass Timber Summary.pdf

F12285Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12285_Rationale_FBC Mass Timber Rationale.pdf

F12285Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12285_Rationale_FBC Mass Timber Rationale.pdf

F12285Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12285_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

24

F12286

Date Submitted	02/18/2025	**Section**	508.4.4.1	**Proponent**	Cade Booth
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12286Text Modification

CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as fire barriers or horizontal assemblies to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the building with an approved thermal barrier consisting of gypsum board that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

Page: 1

Mod12286_TextOfModification.pdf

F12286Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

FBC 9th edition – Mass Timber Package

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

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CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

Mod_12286_Text_508.4.4.1.pdf

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

Mod_12286_Text_508.4.4.1.pdf

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

Page: 22

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

Mod_12286_Text_508.4.4.1.pdf

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Mod_12286_Text_508.4.4.1.pdf Page: 24

F12286Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12286_Text_508.4.4.1.pdf

F12286Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12286_Text_508.4.4.1.pdf

F12286Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12286_Rationale_FBC Mass Timber Summary.pdf

F12286Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12286_Rationale_FBC Mass Timber Summary.pdf

F12286Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12286_Rationale_FBC Mass Timber Summary.pdf

F12286Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12286_Rationale_FBC Mass Timber Rationale.pdf

F12286Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12286_Rationale_FBC Mass Timber Rationale.pdf

F12286Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12286_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

25

F12287

Date Submitted	02/18/2025	**Section**	508.4.1.1	**Proponent**	Cade Booth
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12287Text Modification

CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, mass timber elements serving as fire barriers or horizontal assemblies in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an approved thermal barrier consisting of gypsum board that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 1

Mod12287_TextOfModification.pdf

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Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the *noncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12287_Text_509.4.1.1.pdf

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less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1$ **(Equation 6-1)**

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

FBC 9th edition – Mass Timber Package

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12287_Text_509.4.1.1.pdf

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12287_Text_509.4.1.1.pdf

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SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12287_Text_509.4.1.1.pdf

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4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

CHAPTER 33

SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12287_Text_509.4.1.1.pdf

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CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

Mod_12287_Text_509.4.1.1.pdf

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

Mod_12287_Text_509.4.1.1.pdf

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION												
	See Footnotes	Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Mod_12287_Text_509.4.1.1.pdf Page: 24

F12287Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

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CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12287_Text_509.4.1.1.pdf

F12287Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12287_Text_509.4.1.1.pdf

F12287Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12287_Rationale_FBC Mass Timber Summary.pdf

F12287Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12287_Rationale_FBC Mass Timber Summary.pdf

F12287Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12287_Rationale_FBC Mass Timber Summary.pdf

F12287Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12287_Rationale_FBC Mass Timber Rationale.pdf

F12287Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12287_Rationale_FBC Mass Timber Rationale.pdf

F12287Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12287_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

26

F11835

Date Submitted	02/06/2025	**Section**	603.1	**Proponent**	Aaron Phillips
Chapter	6	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

11831, 11836, 11837, 11839, 11840, 11841, 11842

Summary of Modification

Clarify that roof assemblies not roof coverings are tested for fire resistance.

Rationale

This modification improves and clarifies terminology associated with roofing fire tests. It corrects instances where results of ASTM E108 or UL 790 tests are associated with a "roof covering" instead of a roof assembly. ASTM E108 and UL 790 tests cannot be performed on a "roof covering." They involve a roof covering (and sometimes other elements, such as insulation or underlayment) installed onto a roof deck. These tests are always performed on a roof assembly, which by definition includes a roof covering and a roof deck.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None.
Impact to building and property owners relative to cost of compliance with code
None.
Impact to industry relative to the cost of compliance with code
None.
Impact to small business relative to the cost of compliance with code
None.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Improves clarity of the code regarding fire resistance provisions.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves clarity of the code regarding fire resistance provisions.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Improves the effectiveness of the code.

F11835Text Modification

Revise as follows:

603.1 Allowable materials. Combustible materials shall be permitted in buildings of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* shall be permitted in:
    1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less.
    1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
    1.3. Roof construction, including girders, trusses, framing and decking.
        Exception: In buildings of Type IA construction exceeding two *stories* above *grade plane, fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).
2. Thermal and acoustical insulation, other than foam plastics, having a *flame spread index* of not more than 25.
    Exceptions:
    1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
    2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.
3. Foam plastics in accordance with Chapter 26.
4. *Roof assemblies* ~~Roof coverings~~ that have an A, B or C classification.

[Remaining numbered items are not changed.]

Page: 1

Mod11835_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

27

F12241

Date Submitted	02/17/2025	**Section**	6	**Proponent**	Cade Booth
Chapter	6	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language Yes**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

Alternate Language

1st Comment Period History

F12241-A2

Proponent Cade Booth **Submitted** 3/24/2025 9:05:53 PM **Attachments** Yes

Rationale:

For alignment with the FBC, please correct the following references: 1. Section 602.4 should reference 703.8 (not 703.6) 2. Section 602.4.1.2 should reference 703.5 (not 703.3) 3. Section 602.4.2.2 should reference 703.5 (not 703.3) Once corrected, these sections should read as follows: ~~please note: Alternate language proposals are limited to the three sections listed below. All other language of the original modification to remain unchanged.^^ 602.4 Type IV. Type IV construction... The time assigned to the noncombustible protection shall be determined in accordance with Section 703.8 and comply with Section 722.7. 602.4.1.2 Interior protection. Interior faces of all mass timber elements, including the inside faces of exterior mass timber walls and mass timber roofs, shall be protected with materials complying with Section 703.5. 602.4.2.2 Interior protection. Interior faces of all mass timber elements, including the inside face of exterior mass timber walls and mass timber roofs, shall be protected, as required by this section, with materials complying with Section 703.5. Thank you.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

Impact to building and property owners relative to cost of compliance with code

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

Impact to industry relative to the cost of compliance with code

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No change in original statements. Proposal is correction of a reference for alignment with FBC.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No change in original statements. Proposal is correction of a reference for alignment with FBC.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No change in original statements. Proposal is correction of a reference for alignment with FBC.

Does not degrade the effectiveness of the code

No change in original statements. Proposal is correction of a reference for alignment with FBC.

1st Comment Period History

F12241-G1

Proponent Laura Barbero Buffa Submitted 3/14/2025 5:52:40 PM Attachments No

Comment:

I would like to voice my support for adding mass timber provisions to the Florida Building Code. As an engineer that has designed and permitted a building in Florida, and is currently working on more buildings, it is extremely important for our Code to include mast timber provisions that align with the International Building Code.

1st Comment Period History

F12241-G2

Proponent Kevin Warkentin Submitted 3/17/2025 8:37:14 AM Attachments No

Comment:

The Composite Panel Association supports adding the mass timber construction provisions of the 2024 International Building Code into the 2026 FL Building Code.

1st Comment Period History

F12241-G3

Proponent Steve Cavanaugh Submitted 3/17/2025 10:54:10 AM Attachments No

Comment:

As a practicing architect with 39 years of experience, I am in support of design and construction work that promotes sustainability through decarbonization. I am in favor of adoption of the latest and most progressive code language with respect to type IV construction types, which is the subject of this modification.

1st Comment Period History

F12241-G4

Proponent Jason Vandever Submitted 3/17/2025 10:56:15 AM Attachments No

Comment:

Though I currently represent the insulation industry, I have an extensive background in building codes both as a code official and as an educator. Mass timber provisions should be adopted into the Florida Building Code. They have been vetted by industry experts and improved over a couple of code cycles. They provide the guidance and uniformity Florida needs for these types of buildings. I can't think of any reason why Florida would not adopt these provisions and I would encourage you to do so.

1st Comment Period History

F12241-G5

Proponent Pete Kobelt Submitted 3/18/2025 12:00:35 PM Attachments No

Comment:

I have been manufacturing and building with Mass Timber since 2010 in the U.S., Canada and EU including Binderholz from Austria who recently purchased two SYP sawmills - Live Oak, FL and Enfield NC. These two mills have ~1.5mmmbf of combined SYP milling capacity. In the near future Binder will be building what will result in the largest most sophisticated mass timber component manufacturing facility in NA in NC that will be utilizing the fiber from both FL and NC mills. This will have a significantly positive impact on the region's forestry and construction sectors. We have been talking to UF in Gainesville about design and building mass timber buildings on multiple campuses as we are doing across the higher ed sector across NA - arguably the most fertile ground for mass timber remain K-12 and higher ed. By advancing and adopting the new code provisions Florida will have the opportunity to be a leader in mass timber construction and in turn share that story about sustainability, jobs, beautiful high performance buildings that use less carbon to build and operate and can be built 20% faster with less waste.

1st Comment Period History

F12241-G6

Proponent Varn Brittany Submitted 3/20/2025 1:43:57 PM Attachments Yes
Comment:
The Florida Forestry Association represents all aspects of our state's forest community. We fully support the inclusion in the 2026 Florida Building Code of all mass timber provisions adopted by the 2024 International Building Code. In addition to safety and labor benefits, the inclusion of mass timber construction in the Florida Building Code will represent an important factor in the future health and sustainability of Florida's forests. Creating a vital new market, the growth of mass timber will provide the financial resources needed to keep lands forested and managed. This is important on the environmental level because sustainably managed and harvested forests capture more carbon and provide habitat for a greater range of species than forests left unmanaged. Using building materials that are manufactured from sustainably managed forests also plays an important role in carbon sequestration and mitigates drivers of climate change. Because of the state's extensive timber assets, investment in mass timber production is projected to yield significant positive impacts for Florida's economy as well. By adopting these provisions into the Florida Building Code, Florida will also align with national codes for consistency and ensure uniform guidelines for efficient enforcement.

1st Comment Period History

F12241-G9

Proponent James Blythe Submitted 3/26/2025 2:44:07 PM Attachments Yes
Comment:
As a Florida based architect, we are seeing much more demand and value in having the option for mass timber as a primary and secondary structural system. We recently completed a hybrid mass timber (CLT roof deck and glu-lam beams) project in Gainesville, FL where this made up 35% of the building with the rest being traditional wood stud framing/wood roof trusses. What we really want is to make this a real alternative to concrete and steel hybrid structural systems for multi-story buildings. Economically we need a real alternative to these systems. There is still concern from design professionals that designing using mass timber will cause delays in permitting given some non-specific code language and how that is interpreted by local code officials. Updates as proposed to the FBC will help in this regard.

1st Comment Period History

F12241-G10

Proponent Noah Rollins Submitted 3/28/2025 8:46:30 AM Attachments No
Comment:
I am writing to encourage the State to adopt the proposed Mass Timber language into the upcoming FBC 9th Edition. Mass timber construction is a tested and validated approach with significant available resources in the US (particularly in the Southeast), and already in practice across 40 states through similar codes. This adoption will provide a safe and consistent statewide expansion of the construction types available to our design profession, and will allow builders and developers a wider range of options that can be sourced domestically, improve costs, and speed construction. Aligning with the national approach to Type IV construction will allow more sustainability in options and approaches for our state. Thank you. - Noah Rollins, AIA, NCARB, LEED AP Senior Associate Gensler

1st Comment Period History

F12241-G11

Proponent Sarah Joubert Submitted 4/10/2025 10:10:27 AM Attachments No
Comment:
I am writing to encourage the State to adopt the proposed Mass Timber language into the upcoming FBC 9th Edition. Mass timber construction is a tested and validated approach with significant available resources in the US (particularly in the Southeast), and already in practice across 40 states through similar codes. This adoption will provide a safe and consistent statewide expansion of the construction types available to our design profession, and will allow builders and developers a wider range of options that can be sourced domestically, improve costs, and speed construction.

1st Comment Period History

F12241-G12

Proponent Greg Johnson Submitted 4/11/2025 12:45:11 PM Attachments Yes

Comment:

I have uploaded a file with links to videos and articles addressing mass timber, some with direct connection to Florida. Most of the videos are only a few minutes long and may be helpful to TAC and Commission members with limited time to dig into the exhaustive documentation of the superior performance of mass timber structures. Additionally the file provides a link to the ICC's development of mass timber provisions for the International Building Code. building and ire code officials voted overwhelmingly in 2018 to add mass timber to the 2021 IBC. It is 2025 and Florida should follow suit. Note: while the proposed changes are not applicable to buildings within the scope of the residential code, across the country mass timber has been used in high-end single family dwellings because of its beauty. Florida home builders will benefit from the adoption of mass timber provisions because it will stimulate the supply chain and drive down the cost of the material, thereby making it a better choice for both aesthetics and economics, adding an attractive design option for custom homes.

1st Comment Period History

F12241-G13

Proponent Bert Oliva Submitted 4/11/2025 4:57:58 PM Attachments Yes

Comment:

Please find our letter of commentary attached.

1st Comment Period History

F12241-G14

Proponent Charles Berg Submitted 4/13/2025 3:12:31 PM Attachments No

Comment:

I am writing to encourage the State to adopt the proposed Mass Timber language into the upcoming FBC 9th Edition. Mass timber construction is a tested and validated approach with significant available resources in the US (particularly in the Southeast), and already in practice across 40 states through similar codes. This adoption will provide a safe and consistent statewide expansion of the construction types available to our design profession, and will allow builders and developers a wider range of options that can be sourced domestically, improve costs, and speed construction.

1st Comment Period History

F12241-G15

Proponent Trenton Debth Submitted 4/14/2025 2:00:32 PM Attachments No

Comment:

My name is Trent Debth, and I serve as Vice President of Project Development for TimberBLDR, a turnkey mass timber firm based in Irving, Texas. Our company specializes in sustainable construction methods, with extensive experience in mass timber design, coordination, and delivery across the country. Our sister company, EMJ Construction, is a large general contractor with over 40 years of continuous work in the state of Florida. Through this deep project history and ongoing involvement in the Florida construction market, we've seen firsthand both the demand for innovative building solutions and the challenges posed by a lack of codified mass timber provisions. Based on our combined experience in Florida and in mass timber construction, we strongly support the proposed modification to the 9th edition of the Florida Building Code. The rationale provided reflects the research, safety validation, and industry consensus necessary for the responsible inclusion of mass timber into Florida's regulatory framework. Adoption of these provisions will bring clarity, consistency, and opportunity to a growing sector of the built environment—while maintaining the highest standards of life safety and code compliance. We appreciate the Commission's consideration and urge approval of the proposed modification. Trent Debth Vice President of Project Development TimberBLDR – Irving, Texas

1st Comment Period History

F12241-G16

Proponent Matthew Hunter Submitted 4/14/2025 5:13:02 PM Attachments Yes

Comment:

We are writing on behalf of APA – The Engineered Wood Association (APA) and its member companies to urge the Florida Building Commission to adopt all mass timber provisions included in the 2021 International Building Code (IBC).

1st Comment Period History

F12241-G17

Proponent Caroline Dauzat Submitted 4/15/2025 6:59:13 PM Attachments No

Comment:

My name is Caroline Dauzat and I am on of the owners of Rex Lumber. We are a fourth-generation family-owned lumber manufacturing company located in Graceville and Bristol, Florida, Troy, Alabama and Brookhaven, Mississippi. We employ just under 800 individuals in the Southeast with 330 employees in Florida alone. I appreciate and support efforts to get Tall Mass Timber (TMT) included in the Florida Building Code. Inclusion of TMT will provide additional construction options in our beautiful state that will support and grow local rural industries that are in desperate need of career opportunities. For Florida, adding this mass timber for tall buildings adds competition with a uniquely sustainable product. My family (the McRae Family), owners of Rex Lumber, of Graceville, Florida, is also an investor in SmartLam (https://www.smartlam.com/), located in Dothan, Alabama and Columbia Falls, Montana. SmartLam is a manufacturer of Cross Laminated Timber and Glulam beams that are essential for Mass Timber Construction. We manufacture a lot of lumber here in Florida that goes into CLT in Dothan. Updating the FBC to permit TMT buildings will support and stimulate investment in its manufacturing and supply chain in Florida as well as put downward pressure on cost and pricing. Investment in TMT production is projected to have significant economic benefits for the FL economy because of the state's extensive timber resources. Florida's forest industry contributes $25 billion to the state's economy, providing more than 124,000 jobs. There are 17 million acres of forestland covering almost half of Florida's total land area. Almost 2/3 of the forestland is privately owned. Because of repetitive building layouts in residential multifamily buildings, and the speed of constructing TMT buildings, it is predicted that TMT will compete successfully with other materials used for multifamily buildings in the 8 -12 story height range. Using mass timber in schools offers several benefits for students, including improved well-being, cognitive performance, and a more sustainable learning environment. Additionally, mass timber construction can be faster and more cost-effective than traditional methods, potentially freeing up more resources for education. Florida is well behind in the U.S., there are currently 40 states that have adopted the code language of the IBC into their building codes. The majority of these states adopted language from the 2021 IBC with some jurisdictions already using the 2024 IBC. Thank you for the opportunity to comment to express my support of the inclusion of TMT in the Florida Building Code.

1st Comment Period History

F12241-G18

Proponent Steve Marshall Submitted 4/15/2025 9:18:10 PM Attachments No

Comment:

I strongly support the proposed code changes which would bring Florida up to date with similar changes that have now been made in codes for 40 states with 6 more states considering them as well. Mass timber can be built with safely. It provides another option for construction. With more than 1,000 mass timber buildings having been built in the U.S. over the last dozen years, providing this pathway in the code is vital to construction in Florida. As one that participated in some of the fire testing used in the IBC revision process, I am confident that risk was completely vetted.

1st Comment Period History

F12241-G19

Proponent Jennifer Hatfield Submitted 4/16/2025 6:30:51 PM Attachments No

Comment:

On behalf of the Building Officials Association of Florida (BOAF), we support adding mass timber provisions into the Florida Building Code and encourage the Technical Advisory Committee and Commission to adopt this proposal. Mass timber provisions have been vetted thoroughly by industry experts and used extensively across the country. It is important for our Florida Code to include provisions that align with the latest International Building Code provisions. As code officials, it is critical we have clear requirements within the code and by doing so, it will ensure uniformity across the State as to how these types of buildings should safely be manufactured and constructed.

F12241-A2Text Modification

<<please note: Alternate language proposals are limited to the three sections listed below. All other language of the original modification to remain unchanged.>>

602.4 Type IV. Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted. Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the *noncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section ~~703.6~~ 703.8 and comply with Section 722.7.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section ~~703.3~~ 703.5.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and mass timber roofs, shall be protected, as required by this section, with materials complying with Section ~~703.3~~ 703.5.

Page: 1

Mod12241_A2_TextOfModification.pdf

F12241Text Modification

CHAPTER 6

TYPES OF CONSTRUCTION

SECTION 601

GENERAL

Revise table as follows:

TABLE601

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	-0	-0	-0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 1/2[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	1 1/2	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.

2. Where the roof is an occupiable space.

Mod12241_TextOfModification.pdf Page: 1

F12241Text Modification

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a fire-resistance rating of not less than 1 hour.

SECTION 602

CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior *building elements* are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and *cross-laminated timber* and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour *fire-resistance rating* or heavy timber complying with Section 2304.11.2.2 shall be permitted. Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the *noncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and n*onload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

Page: 2

Mod12241_TextOfModification.pdf

F12241Text Modification

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

Exception: Interior *building elements* and *nonload-bearing walls* and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

602.4.1 Type IV-A. *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance* rating of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.1.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall* covering shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m2, a total heat release of less than 20 MJ/m2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and mass timber roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber.* Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly.*

Page: 3

Mod12241_TextOfModification.pdf

F12241Text Modification

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of mass timber elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 602.4.2.1 through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall* covering shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m2, a total heat release of less than 20 MJ/m2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

Page: 4

Mod12241_TextOfModification.pdf

F12241Text Modification

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

(Utc/ Uac)+(Utw/Uaw) = 1 **(Equation 6-1)**

where:

Utc = Total unprotected *mass timber* ceiling areas.

Uac = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

Utw = Total unprotected *mass timber* wall areas.

Uaw = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

Page: 5

Mod12241_TextOfModification.pdf

F12241Text Modification

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m2, a total heat release of less than 20 MJ/m2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical,* and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1 Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with

Page: 6

Mod12241_TextOfModification.pdf

F12241Text Modification

a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be is protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than building elements and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical.* Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch Type X gypsum board.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater f*ire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 7

Mod12241_TextOfModification.pdf

F12241Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

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less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

FBC 9th edition – Mass Timber Package

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

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F12241Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R_h	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

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SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12241_Text_FBC Mass Timber Full Package - ch 6.pdf

F12241-G16General Comment



[Subject: Adoption of 2021 IBC Mass Timber Provisions]

Mr. Michael Bourre, chairman
Florida Building Commission
2601 Blair Stone Road
Tallahassee, FL 32399

Dear Chairman Bourre:

We are writing on behalf of APA – The Engineered Wood Association (APA) and its member companies to urge the Florida Building Commission to adopt all mass timber provisions included in the 2021 International Building Code (IBC).

APA is a nonprofit trade association representing U.S. and Canadian manufacturers of structural engineered wood products, including approximately 175 member mills in 23 states and seven provinces, including a plywood mill in Havana, Florida.

For nearly 90 years, APA has supported the industry's creation of structural engineered wood products of exceptional strength, versatility, and reliability. With a state-of-the-art 42,000-square-foot research center and the knowledge gained from decades of fieldwork, APA focuses on product certification and testing, quality assurance, applied research, market support and development of engineered wood products.

The reasons for supporting mass timber provision in the Florida Building Code are three-fold:

- **Mass timber buildings designed and constructed to code requirements are structurally sound, resilient to extreme weather events, and naturally fire-resistant, supporting overall occupant safety and well-being.**
- **Mass timber is also gaining popularity among the design and builder communities due to its environmental advantages including carbon sequestration and storage, supporting healthy forest management, and replacing traditional higher greenhouse gas-emitting building materials.**
- **Equally important to the adoption of mass timber provisions at the state level is the recognition that maintaining healthy, productive forests is not only beneficial to the environment, but also vital to the Florida economy.** In Florida, forests span more than 14.5 million acres and support approximately 133,000 jobs, generating more than $16.5 billion in revenue for the state. The proposed adoption of mass timber provisions would further strengthen Florida's timber industry as a key economic driver.

APA has a long-standing and active role in the development of codes and product standards related to mass timber. Most recently, APA led the development of *ANSI/APA PRG 320-2025: Standard for Performance-Rated Cross-Laminated Timber*, following the American National Standards Institute (ANSI)'s due process requirements. This 72-page standard was approved for publication by ANSI on January 27, 2025. The standard outlines requirements and test

REPRESENTING THE ENGINEERED WOOD INDUSTRY
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Page: 1
Mod_12241_G16_General_APA POSITION STATEMENT-MASS TIMBER 4-14-25.pdf

F12241-G16General Comment

methods for the qualification and quality assurance of performance-rated CLT manufactured from solid-sawn lumber or SCL for use in construction.

In addition, APA develops and maintains glulam product standards, including ANSI 405, ANSI 117, and ANSI A190.1. These standards are currently referenced in the 2024 model building codes. The newly approved ANSI/APA PRG 320-2025 is on track to be incorporated into the 2027 model codes.

For these reasons, APA urges the state of Florida Building Code Commission to adopt all mass timber provisions included within the 2021 and later editions of the International Building Code.

If you have any questions regarding CLT, glulam or other engineered wood products and adopting the provisions contained within the 2021 and later version of the IBC, please do not hesitate to contact us directly.

Regards,

Eric Gu, Ph.D., P.E., Vice President of Technical Services Division
Larry Oenning, P.E., Vice President of Market Access Division

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Page: 2

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F12241-G13General Comment

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Gensler

April 14, 2025

To the Florida Building Commission and All Parties:

At Gensler, we strive to create a better world through the power of design. Daily, our over 6,000 team members across the globe are working toward this goal, including our over 100 professionals in the state of Florida. We believe a safe, resilient, and economically reliable future for our communities is built by unleashing innovation and employing all safe and reliable methods of construction available to our industry.

Today, we are expressing our wholehearted support for the adoption of the proposed Type IV (mass timber) construction type modifications to the 9th edition of the Florida Building Code (FBC.) Gensler has designed over 10M square feet of mass timber projects in North America. Our intensive internal research and experience executing these projects have created buildings where our communities work, live, and thrive. The adoption of similar codes across the majority of the US follows rigorous fire, structural, and safety testing undertaken by national and international experts, including the International Code Council (ICC) Ad Hoc Committee on Tall Wood Buildings.

This usage of mass timber expands upon the existing state of Florida approved construction types, providing more options for builders, municipalities, and developers. Project costs and schedules can be reduced due to lighter foundations and shorter construction times. Energy required for production of mass timber can be significantly less than other structural systems. Responsibly-harvested timber is a highly renewable material with abundant US-based resources. Furthermore, the southeastern US is the largest "timber basket" for southern yellow pine, one of the most dominantly used species in mass timber construction.

The majority of US states have aligned their building codes with the International Building Code (IBC) mass timber sections adopted in 2021, and further codified in 2024. Your adoption of the proposed amendments will create greater consistency across our industry, unlock new cost- and time-saving opportunities, and increase reliance on US-based production of building materials. We thank you for considering this important topic, and look forward to being your partner in creating a better state of Florida.

Sarah Joubert, AIA, Managing Principal, Tampa



Bert Oliva, Managing Principal, Tampa



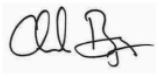
Dawn Gunter, AIA, Managing Principal, Miami



Noah Rollins, AIA, Senior Associate



Charles Berg, AIA, Senior Associate



Lic#: AA0002837

Page: 1

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F12241-G12General Comment

Mass Timber Videos

Mass Timber in Florida: A Sustainable Building Solution

- Florida Forest Service (5 minutes)

Mass Timber: Economics

- Georgia Forestry Commission (4 minutes)

Economics of Mass Timber

- Texas A&M Forest Service (3+ minutes)

Katerra | CLT Performance Testing

- KATERRA (6+ minutes)

Is mass timber the building material of the future?

- PBS News Hour (10 minutes)

Mass timber: the future of construction?

- Financial Times (6 minutes)

Buildings of the Future: The Timber Construction Revolution

- Free Documentary – Engineering (52 minutes)

Mass Timber Code & Performance Resources

- https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/

Mass Timber Articles

Mass timber: Multifamily's next big building system

Mass Timber Primed for Wider Use?

- (references Florida projects)

5 Legitimate Reasons for Using Mass Timber in Multifamily Construction

The Quick Ascent of Mass Timber in Multifamily

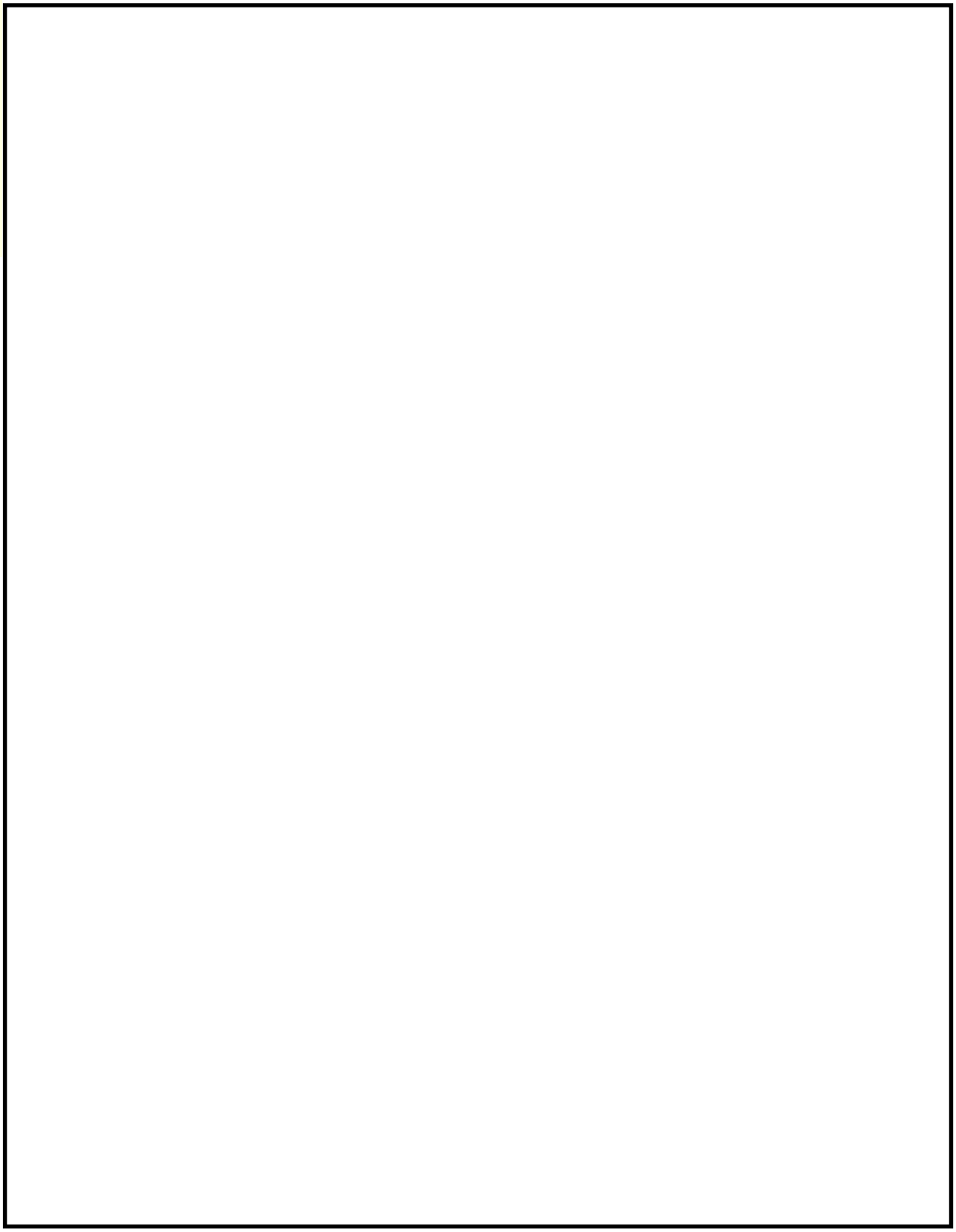
Is Mass Timber the Future of Modular Multifamily Universal Design?

What you should know about Mass Timber

Page: 1

Mod_12241_G12_General_Mass Timber Videos and Articles 2025.pdf

F12241-G12General Comment



F12241-G9General Comment

3/25/25

As a Florida based architect, we are seeing much more demand and value in having the option for mass timber as a primary and secondary structural system. We recently completed a hybrid mass timber (CLT roof deck and glu-lam beams) project in Gainesville, FL where this made up 35% of the building with the rest being traditional wood stud framing/wood roof trusses.

What we really want is to make this a real alternative to concrete and steel hybrid structural systems for multi-story buildings. Economically we need a real alternative to these systems. There is still concern from design professionals that designing using mass timber will cause delays in permitting given some non-specific code language and how that is interpreted by local code officials. Updates as proposed to the FBC will help in this regard.

James Blythe, AIA

Page: 1

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F12241-G6General Comment

FLORIDA FORESTRY ASSOCIATION

402 East Jefferson Street
Tallahassee, FL 32301
850.222.5646
FLForestry.org

The Florida Forestry Association represents all aspects of our state's forest community. We fully support the inclusion in the 2026 Florida Building Code of all mass timber provisions adopted by the 2024 International Building Code.

In addition to safety and labor benefits, the inclusion of mass timber construction in the Florida Building Code will represent an important factor in the future health and sustainability of Florida's forests. Creating a vital new market, the growth of mass timber will provide the financial resources needed to keep lands forested and managed.

This is important on the environmental level because sustainably managed and harvested forests capture more carbon and provide habitat for a greater range of species than forests left unmanaged. Using building materials that are manufactured from sustainably managed forests also plays an important role in carbon sequestration and mitigates drivers of climate change.

Because of the state's extensive timber assets, investment in mass timber production is projected to yield significant positive impacts for Florida's economy as well.

By adopting these provisions into the Florida Building Code, Florida will also align with national codes for consistency and ensure uniform guidelines for efficient enforcement.

Page: 1

Mod_12241_G6_General_Mass Timber Comments.pdf

F12241-A2Rationale

For alignment with the FBC, please correct the following references:

1. Section 602.4 should reference 703.8 (not 703.6)
2. Section 602.4.1.2 should reference 703.5 (not 703.3)
3. Section 602.4.2.2 should reference 703.5 (not 703.3)

Once corrected, these sections should read as follows:

<<please note: all other language in the original modification to remain unchanged>>

602.4 Type IV. Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted. Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the *noncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.8 and comply with Section 722.7.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.5.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.5.

Thank you.

Page: 1

Mod_12241_A2_Rationale_F12241 comment for ALIGNMENT.pdf

F12241Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12241_Rationale_FBC Mass Timber Summary.pdf

F12241Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12241_Rationale_FBC Mass Timber Summary.pdf

F12241Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12241_Rationale_FBC Mass Timber Summary.pdf

F12241Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12241_Rationale_FBC Mass Timber Rationale.pdf

F12241Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12241_Rationale_FBC Mass Timber Rationale.pdf

F12241Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12241_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

28

F12264

Date Submitted	02/18/2025	**Section**	601	**Proponent**	Cade Booth
Chapter	6	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12264Text Modification

CHAPTER 6

TYPES OF CONSTRUCTION

SECTION 601

GENERAL

Revise table as follows:

TABLE 601

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a,b]	2[a,b,c]	1[b,c]	0[c]	1[b,c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e,f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	SeeTable705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 1/2[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	1 1/2	1	1	HT	1	0

Page: 1

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For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 2

Mod12264_TextOfModification.pdf

F12264Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12264_Text_601 table.pdf

F12264Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12264_Text_601 table.pdf

F12264Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
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Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
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Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12264_Text_601 table.pdf

F12264Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
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BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12264_Text_601 table.pdf

F12264Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12264_Text_601 table.pdf

F12264Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12264_Text_601 table.pdf

F12264Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12264_Text_601 table.pdf

F12264Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12264_Text_601 table.pdf

F12264Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12264_Text_601 table.pdf

F12264Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12264_Text_601 table.pdf

F12264Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12264_Text_601 table.pdf

F12264Text Modification

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12264_Text_601 table.pdf

F12264Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12264_Text_601 table.pdf

F12264Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12264_Text_601 table.pdf

F12264Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12264_Text_601 table.pdf

F12264Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12264_Text_601 table.pdf

F12264Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12264_Text_601 table.pdf

F12264Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12264_Text_601 table.pdf

F12264Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12264_Text_601 table.pdf

F12264Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

Mod_12264_Text_601 table.pdf

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

Mod_12264_Text_601 table.pdf

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION												
	See Footnotes	Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12264_Text_601 table.pdf

F12264Text Modification

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

Mod_12264_Text_601 table.pdf

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24

Mod_12264_Text_601 table.pdf

F12264Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12264_Text_601 table.pdf

F12264Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12264_Text_601 table.pdf

F12264Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12264_Text_601 table.pdf

F12264Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12264_Text_601 table.pdf

F12264Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12264_Text_601 table.pdf

F12264Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12264_Text_601 table.pdf

F12264Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12264_Text_601 table.pdf

F12264Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12264_Rationale_FBC Mass Timber Summary.pdf

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Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12264_Rationale_FBC Mass Timber Summary.pdf

F12264Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12264_Rationale_FBC Mass Timber Summary.pdf

F12264Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12264_Rationale_FBC Mass Timber Rationale.pdf

F12264Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12264_Rationale_FBC Mass Timber Rationale.pdf

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For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12264_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

29

F12265

Date Submitted	02/18/2025	**Section**	602.4	**Proponent**	Cade Booth
Chapter	6	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language Yes**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber's history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

Alternate Language

1st Comment Period History

F12265-A1

Proponent Cade Booth **Submitted** 3/24/2025 9:16:33 PM **Attachments** Yes

Rationale:

For alignment with the FBC, please correct the following references: 1. Section 602.4 should reference 703.8 (not 703.6) 2. Section 602.4.1.2 should reference 703.5 (not 703.3) 3. Section 602.4.2.2 should reference 703.5 (not 703.3) Once corrected, these sections should read as follows: ~~please note: all other language in the original modification to remain unchanged^^ 602.4 Type IV. Type IV... The time assigned to the noncombustible protection shall be determined in accordance with Section 703.8 and comply with Section 722.7. 602.4.1.2 Interior protection. Interior faces of all mass timber elements, including the inside faces of exterior mass timber walls and mass timber roofs, shall be protected with materials complying with Section 703.5. 602.4.2.2 Interior protection. Interior faces of all mass timber elements, including the inside face of exterior mass timber walls and mass timber roofs, shall be protected, as required by this section, with materials complying with Section 703.5. Thank you.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

Impact to building and property owners relative to cost of compliance with code

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

Impact to industry relative to the cost of compliance with code

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No change in original statements. Proposal is correction of a reference for alignment with FBC.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No change in original statements. Proposal is correction of a reference for alignment with FBC.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No change in original statements. Proposal is correction of a reference for alignment with FBC.

Does not degrade the effectiveness of the code

No change in original statements. Proposal is correction of a reference for alignment with FBC.

F12265-A1Text Modification

<<please note: all other language in the original modification to remain unchanged>>

602.4 Type IV. Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted. Type IV construction is that type of construction in which the building elements are mass timber or noncombustible materials and have fire-resistance ratings in accordance with Table 601. Mass timber elements shall meet the fire-resistance-rating requirements of this section based on either the fire-resistance rating of the noncombustible protection, the mass timber, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for building elements shall comply with the provisions of this section and Section 2304.11. Mass timber elements of Types IV-A, IV-B and IV-C construction shall be protected with noncombustible protection applied directly to the mass timber in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the noncombustible protection shall be determined in accordance with Section ~~703.6~~ 703.8 and comply with Section 722.7.

602.4.1.2 Interior protection. Interior faces of all mass timber elements, including the inside faces of exterior mass timber walls and mass timber roofs, shall be protected with materials complying with Section ~~703.3~~ 703.5.

602.4.2.2 Interior protection. Interior faces of all mass timber elements, including the inside face of exterior mass timber walls and mass timber roofs, shall be protected, as required by this section, with materials complying with Section ~~703.3~~ 703.5.

Page: 1

Mod12265_A1_TextOfModification.pdf

F12265Text Modification

CHAPTER 6

TYPES OF CONSTRUCTION

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and ad new section as follows:

602.4 Type IV. Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted. Type IV construction is that type of construction in which the building elements are mass timber or noncombustible materials and have fire-resistance ratings in accordance with Table 601. Mass timber elements shall meet the fire-resistance-rating requirements of this section based on either the fire-resistance rating of the noncombustible protection, the mass timber, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for building elements shall comply with the provisions of this section and Section 2304.11. Mass timber elements of Types IV-A, IV-B and IV-C construction shall be protected with noncombustible protection applied directly to the mass timber in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the noncombustible protection shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

> **Exception:** Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

> **Exception:** Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A. B**uilding elements in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required fire-resistance rating of noncombustible elements and protected mass timber elements shall be determined in accordance with Section 703.2.

Page: 1

Mod12265_TextOfModification.pdf

F12265Text Modification

602.4.1.1 Exterior protection. The outside face of exterior walls of mass timber construction shall be protected with noncombustible protection with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the exterior wall covering shall be of noncombustible material except water-resistive barriers having a peak heat release rate of less than 150kW/m2, a total heat release of less than 20 MJ/m2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a flame spread index of 25 or less and a smoke-developed index of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m2.

602.4.1.2 Interior protection. Interior faces of all mass timber elements, including the inside faces of exterior mass timber walls and mass timber roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. Noncombustible protection shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the mass timber. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The interior surfaces of roof assemblies shall be protected in accordance with Section 602.4.1.2. Roof coverings in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the Florida Building Code, Mechanical, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. Shafts shall be permitted in accordance with Sections 713 and 718. Both the shaft side and room side of mass timber elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. Building elements in Type IV-B construction shall be protected in accordance with Sections 602.4.2.1 through 602.4.2.6. The required fire-resistance rating of noncombustible elements or mass timber elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of exterior walls of mass timber construction shall be protected with noncombustible protection with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the exterior wall covering shall be of noncombustible material except water-resistive barriers having a peak heat release rate of less than 150kW/m2, a total heat release of less than 20 MJ/m2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a flame spread index of 25 or less and a smoke-developed index of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m2.

Page: 2

Mod12265_TextOfModification.pdf

F12265Text Modification

602.4.2.2 Interior protection. Interior faces of all mass timber elements, including the inside face of exterior mass timber walls and mass timber roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. Noncombustible protection shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of mass timber elements, including the inside face of exterior mass timber walls and mass timber roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of mass timber ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of mass timber ceilings and walls complying with one of the following:

1.1 Unprotected portions of mass timber ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any dwelling unit within a story or fire area within a story.

1.2 Unprotected portions of mass timber walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any dwelling unit within a story or fire area within a story.

1.3 Unprotected portions of both walls and ceilings of mass timber, including attached columns and beams, in any dwelling unit or fire area shall be permitted in accordance with Section 602.4.2.2.3.

2. Mass timber columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each dwelling unit or fire area, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(Utc/Uac)+(Utw/Uaw) = 1 \quad \textbf{(Equation 6-1)}$$

where:

Utc = Total unprotected mass timber ceiling areas.

Uac = Allowable unprotected mass timber ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

Utw = Total unprotected mass timber wall areas.

Uaw = Allowable unprotected mass timber wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each dwelling unit or fire area, unprotected portions of mass timber walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the mass timber. Floor finishes in accordance with Section 804 shall be permitted on top of the

Page: 3

Mod12265_TextOfModification.pdf

F12265Text Modification

noncombustible material. Except where unprotected mass timber ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.2.4 Roofs. The interior surfaces of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. Roof coverings in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the Florida Building Code, Mechanical, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. Shafts shall be permitted in accordance with Sections 713 and 718. Both the shaft side and room side of mass timber elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. Building elements in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required fire-resistance rating of building elements shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with noncombustible protection with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the exterior wall covering shall be of noncombustible material except water-resistive barriers having a peak heat release rate of less than 150 kW/m2, a total heat release of less than 20 MJ/m2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a flame spread index of 25 or less and a smoke-developed index of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m2.

602.4.3.2 Interior protection. Mass timber elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. Roof coverings in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the Florida Building Code, Mechanical, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with noncombustible protection with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. Shafts shall be permitted in accordance with Sections 713 and 718. Shafts and elevator hoistway and interior exit stairway enclosures shall be protected with noncombustible protection with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the shaft and the outside of the shaft.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated heavy timber or

Page: 4

Mod12265_TextOfModification.pdf

F12265Text Modification

structural composite lumber (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, SCL and cross-laminated timber (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in exterior walls.** Fire-retardant-treated wood framing and sheathing complying with Section 2303.2 shall be permitted within exterior wall assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in exterior walls.** Cross-laminated timber not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within exterior wall assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the CLT exterior wall shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the exterior wall. The exterior surface of the cross-laminated timber and heavy timber elements shall be is protected by one the following:

1.Fire-retardant-treated wood sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.

2.Gypsum board not less than 1/2 inch (12.7 mm) thick; or

3.A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than building elements and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1.The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.

2.The concealed space shall be completely filled with noncombustible insulation.

3.Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch Type X gypsum board.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater fire-resistance rating complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 5

Mod12265_TextOfModification.pdf

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FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12265_Text_602.4.pdf

F12265Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12265_Text_602.4.pdf

F12265Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12265_Text_602.4.pdf

F12265Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

1

Page: 4

Mod_12265_Text_602.4.pdf

F12265Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12265_Text_602.4.pdf

F12265Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12265_Text_602.4.pdf

F12265Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12265_Text_602.4.pdf

F12265Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12265_Text_602.4.pdf

F12265Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12265_Text_602.4.pdf

F12265Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12265_Text_602.4.pdf

F12265Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12265_Text_602.4.pdf

F12265Text Modification

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12265_Text_602.4.pdf

F12265Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12265_Text_602.4.pdf

F12265Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12265_Text_602.4.pdf

F12265Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403 HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12265_Text_602.4.pdf

F12265Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12265_Text_602.4.pdf

F12265Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12265_Text_602.4.pdf

F12265Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12265_Text_602.4.pdf

F12265Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12265_Text_602.4.pdf

F12265Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
Mod_12265_Text_602.4.pdf

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Mod_12265_Text_602.4.pdf Page: 21

F12265Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12265_Text_602.4.pdf

F12265Text Modification

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

Mod_12265_Text_602.4.pdf

F12265Text Modification

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Mod_12265_Text_602.4.pdf Page: 24

F12265Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12265_Text_602.4.pdf

F12265Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12265_Text_602.4.pdf

F12265Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12265_Text_602.4.pdf

F12265Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12265_Text_602.4.pdf

F12265Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12265_Text_602.4.pdf

F12265Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12265_Text_602.4.pdf

F12265Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12265_Text_602.4.pdf

F12265-A1Rationale

For alignment with the FBC, please correct the following references:

1. Section 602.4 should reference 703.8 (not 703.6)
2. Section 602.4.1.2 should reference 703.5 (not 703.3)
3. Section 602.4.2.2 should reference 703.5 (not 703.3)

Once corrected, these sections should read as follows:

<<please note: all other language in the original modification to remain unchanged>>

602.4 Type IV. Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted. Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.8 and comply with Section 722.7.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.5.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.5.

Thank you.

Page: 1

Mod_12265_A1_Rationale_F12265 comment for ALIGNMENT.pdf

F12265Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12265_Rationale_FBC Mass Timber Summary.pdf

F12265Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12265_Rationale_FBC Mass Timber Summary.pdf

F12265Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12265_Rationale_FBC Mass Timber Summary.pdf

F12265Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12265_Rationale_FBC Mass Timber Rationale.pdf

F12265Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12265_Rationale_FBC Mass Timber Rationale.pdf

F12265Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12265_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

30

F11836

Date Submitted	02/06/2025	**Section**	705.11	**Proponent**	Aaron Phillips
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

11831, 11835, 11837, 11839, 11840, 11841, 11842

Summary of Modification

Clarify that roof assemblies not roof coverings are tested for fire resistance.

Rationale

This modification improves and clarifies terminology associated with roofing fire tests. It corrects instances where results of ASTM E108 or UL 790 tests are associated with a "roof covering" instead of a roof assembly. ASTM E108 and UL 790 tests cannot be performed on a "roof covering." They involve a roof covering (and sometimes other elements, such as insulation or underlayment) installed onto a roof deck. These tests are always performed on a roof assembly, which by definition includes a roof covering and a roof deck.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None.
Impact to building and property owners relative to cost of compliance with code
None.
Impact to industry relative to the cost of compliance with code
None.
Impact to small business relative to the cost of compliance with code
None.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Improves clarity of the code regarding fire resistance provisions.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves clarity of the code regarding fire resistance provisions.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Improves the effectiveness of the code.

F11836Text Modification

Revise as follows:

705.11 Parapets.

Parapets shall be provided on *exterior walls* of buildings.

Exceptions: A parapet need not be provided on an *exterior wall* where any of the following conditions exist:

1. The wall is not required to be fire-resistance rated in accordance with Table 705.5 because of *fire separation distance*.
2. The building has an area of not more than 1,000 square feet (93 m2) on any floor.
3. Walls that terminate at roofs of not less than 2-hour fire-resistance-rated construction or where the roof, including the deck or slab and supporting construction, is constructed entirely of noncombustible materials.
4. One-hour fire-resistance-rated *exterior walls* that terminate at the underside of the roof sheathing, deck or slab, provided:
    - 4.1. Where the roof/ceiling framing elements are parallel to the walls, such framing and elements supporting such framing shall not be of less than 1-hour fire-resistance-rated construction for a width of 4 feet (1220 mm) for Groups R and U and 10 feet (3048 mm) for other occupancies, measured from the interior side of the wall.
    - 4.2. Where roof/ceiling framing elements are not parallel to the wall, the entire span of such framing and elements supporting such framing shall not be of less than 1-hour fire-resistance-rated construction.
    - 4.3. Openings in the roof shall not be located within 5 feet (1524 mm) of the 1-hour fire-resistance-rated *exterior wall* for Groups R and U and 10 feet (3048 mm) for other occupancies, measured from the interior side of the wall.
    - 4.4. The entire building shall be provided with not less than a Class B *roof assembly*~~roof covering~~.
5. In Groups R-2 and R-3 where the entire building is provided with a Class C *roof assembly*~~roof covering~~, the *exterior wall* shall be permitted to terminate at the underside of the roof sheathing or deck in Type III, IV and V construction, provided one or both of the following criteria is met:
    - 5.1. The roof sheathing or deck is constructed of *approved* noncombustible materials or of *fire-retardant-treated wood* for a distance of 4 feet (1220 mm).
    - 5.2. The roof is protected with 0.625-inch (16 mm) Type X gypsum board directly beneath the underside of the roof sheathing or deck, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members for a minimum distance of 4 feet (1220 mm).
6. Where the wall is permitted to have not less than 25 percent of the *exterior wall* areas containing unprotected openings based on *fire separation distance* as determined in accordance with Section 705.8.

Page: 1

Mod11836_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

31

F11837

Date Submitted	02/06/2025	**Section**	706.6	**Proponent**	Aaron Phillips
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

11831, 11835, 11836, 11839, 11840, 11841, 11842

Summary of Modification

Clarify that roof assemblies, not roof coverings, are tested for fire resistance.

Rationale

This modification improves and clarifies terminology associated with roofing fire tests. It corrects instances where results of ASTM E108 or UL 790 tests are associated with a "roof covering" instead of a roof assembly. ASTM E108 and UL 790 tests cannot be performed on a "roof covering." They involve a roof covering (and sometimes other elements, such as insulation or underlayment) installed onto a roof deck. These tests are always performed on a roof assembly, which by definition includes a roof covering and a roof deck.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None.
Impact to building and property owners relative to cost of compliance with code
None.
Impact to industry relative to the cost of compliance with code
None.
Impact to small business relative to the cost of compliance with code
None.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Improve clarity of the code regarding fire resistance provisions.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improve clarity of the code regarding fire resistance provisions.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Improves effectiveness of the code.

F11837Text Modification

Revise as follows:

706.6 Vertical continuity.

Fire walls shall extend from the foundation to a termination point not less than 30 inches (762 mm) above both adjacent roofs.

Exceptions:

1. Stepped buildings in accordance with Section 706.6.1.
2. Two-hour fire-resistance-rated walls shall be permitted to terminate at the underside of the roof sheathing, deck or slab, provided:
    2.1. The lower roof assembly within 4 feet (1220 mm) of the wall has not less than a 1-hour *fire-resistance rating* and the entire length and span of supporting elements for the rated roof assembly has a *fire-resistance rating* of not less than 1 hour.
    2.2. Openings in the roof shall not be located within 4 feet (1220 mm) of the *fire wall*.
    2.3. Each building shall be provided with not less than a Class B *roof assembly*~~roof covering~~.
3. Walls shall be permitted to terminate at the underside of noncombustible roof sheathing, deck or slabs where both buildings are provided with not less than a Class B *roof assembly*~~roof covering~~. Openings in the roof shall not be located within 4 feet (1220 mm) of the *fire wall*.
4. In buildings of Type III, IV and V construction, walls shall be permitted to terminate at the underside of combustible roof sheathing or decks, provided:
    4.1. There are no openings in the roof within 4 feet (1220 mm) of the *fire wall*,
    4.2. The roof is covered with a minimum Class B *roof assembly*~~roof covering~~, and
    4.3. The roof sheathing or deck is constructed of *fire-retardant-treated wood* for a distance of 4 feet (1220 mm) on both sides of the wall or the roof is protected with 5/8-inch (15.9 mm) Type X gypsum board directly beneath the underside of the roof sheathing or deck, supported by not less than 2-inch (51 mm) nominal ledgers attached to the sides of the roof framing members for a distance of not less than 4 feet (1220 mm) on both sides of the *fire wall*.
5. In buildings designed in accordance with Section 510.2, *fire walls* located above the 3-hour *horizontal assembly* required by Section 510.2, Item 1 shall be permitted to extend from the top of this *horizontal assembly*.
6. Buildings with sloped roofs in accordance with Section 706.6.2.

Page: 1

Mod11837_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

32

F11912

Date Submitted	02/04/2025	**Section**	716.5.5	**Proponent**	John Woestman
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Should louvers be prohibited in fire door assemblies in interior exit stairways and ramps and exit passageways?

Rationale

The FBC-B currently requires many doors to interior exit stairways and ramps and exit passageways to comply with Section 716 Opening protectives. Section 716 requires opening protectives to comply with NFPA 80 Standard for Fire Doors and Opening Protectives. There are louvers listed and labeled to NFPA 80. Thus, louvers are currently permitted in fire door assemblies in interior exit stairways and ramps and exit passageways (except where Section 1023.11 refers to Sections 403.5.4, 405.7.2 or 412.3.2.1). Our BHMA members are asking: Considering the life safety importance of controlling smoke in interior exit stairways, and ramps, and exit passageways, should louvers be permitted – or prohibited – in fire door assemblies in interior exit stairways and ramps and exit passageways? Our conclusion, and this proposal: louvers should be prohibited in fire door assemblies in interior exit stairways and ramps and exit passageways. This proposal is based on ICC IBC proposal FS64-24 tentatively approved as submitted for the 2027 IBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal should not increase or decrease the cost of construction. This proposal prohibits the use of louvers in fire door assemblies in interior exit stairways and ramps and exit passageways. This may reduce the cost of these doors.

Impact to building and property owners relative to cost of compliance with code

This proposal should not increase or decrease the cost of construction. This proposal prohibits the use of louvers in fire door assemblies in interior exit stairways and ramps and exit passageways. This may reduce the cost of these doors.

Impact to industry relative to the cost of compliance with code

This proposal should not increase or decrease the cost of construction.

Impact to small business relative to the cost of compliance with code

This proposal should not increase or decrease the cost of construction.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

F11912Text Modification

716.5.5 Doors in interior exit stairways and ramps and exit passageways.

Fire door assemblies in interior exit stairways and ramps and exit passageways shall have a maximum transmitted temperature rise of not more than 450°F (250°C) above ambient at the end of 30 minutes of standard fire test exposure.

Exception: The maximum transmitted temperature rise is not required in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

716.5.5.1 Glazing in doors.

Fire-protection-rated glazing in excess of 100 square inches (0.065 m^2) is not permitted. Fire-resistance-rated glazing in excess of 100 square inches (0.065 m^2) shall be permitted in fire doors. Listed fire-resistance-rated glazing in a fire door shall have a maximum transmitted temperature rise in accordance with Section 716.5.5 when the fire door is tested in accordance with NFPA 252, UL 10B or UL 10C.

716.5.5.2 Louvers.
Louvers are prohibited in *fire door* assemblies in *interior exit stairways* and *ramps* and *exit passageways.*

Page: 1

Mod11912_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

33

F11930

Date Submitted	02/10/2025	**Section**	722.6	**Proponent**	Fernando Pages
Chapter	7	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

722.6.2(3)

Summary of Modification

Adds insulated vinyl siding and backed vinyl siding to table 722.6.2(3).

Rationale

We intend with Table 722.6.2(3) to add backed siding and insulated vinyl siding as an option for use with fire rated assemblies. Backed siding and insulated vinyl siding are equivalent to vinyl siding as an option as cladding that does not impact the fire rating of the assembly.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
Adds between 25% to 50% cost if backed or insulated options chosen.
Impact to industry relative to the cost of compliance with code
Adds between 25% to 50% cost if backed or insulated options chosen.
Impact to small business relative to the cost of compliance with code
Adds between 25% to 50% cost if backed or insulated options chosen.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Brings code up to date with upgraded structural and energy options now available in vinyl siding.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Brings code in line with national standards and provides better product options.

Does not descriminate

Does not degrade the effectiveness of the code

Does not degrade

F11930Text Modification

TABLE 722.6.2(3)

See attachement

Page: 1

Mod11930_TextOfModification.pdf

F11930Text Modification

TABLE 722.6.2(3) MEMBRANE[a] ON EXTERIOR FACE OF WOOD STUD WALLS

SHEATHING	PAPER	EXTERIOR FINISH
5/8-inch T & G lumber	Sheathing paper	Lumber siding
5/16-inch exterior glue *wood structural panel*		Wood shingles and shakes
1/2-inch gypsum wallboard 5/8-inch gypsum wallboard		1/4-inch *fiber-cement* lap, panel or shingle siding 1/4-inch *wood structural panels*-exterior type
1/2-inch fiberboard		1/4-inch hardboard
		Insulated Vinyl Siding
		Metal siding
		Polypropylene Siding
		Stucco on metal lath
		Masonry veneer
		Vinyl siding
		Insulated vinyl Siding
		Backed vinyl siding
None	—	3/8-inch exterior-grade *wood structural panels*

For SI: 1 inch = 25.4 mm.

a. Any combination of sheathing, paper and exterior finish is permitted.

Page: 1

Mod_11930_Text_TABLE 722.6.2(3).pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

34

F12225

Date Submitted	02/17/2025	**Section**	708.4	**Proponent**	Jennifer Hatfield
Chapter	7	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification replaces all occurrences of "draftstopping" with the defined term "draftstop" as draftstopping is not defined whereas draftstop is and these are the same terms.

Rationale

This is an editorial change. The word draftstopping is used multiple times throughout the code. This term is used with no definition. However, the term draftstop is a defined term in Section 202. These are the same terms. This development replaces all occurrences of draftstopping with the defined term of draftstop.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None, as editorial proposal.
Impact to building and property owners relative to cost of compliance with code
None, as editorial proposal.
Impact to industry relative to the cost of compliance with code
None, as editorial proposal.
Impact to small business relative to the cost of compliance with code
None, as editorial proposal.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
None
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes as it ensures the term used is the defined term used in the Code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12225Text Modification

708.4 Continuity.
Fire partitions shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, slab or deck above or to the fire-resistance-rated floor/ceiling or roof/ceiling assembly above, and shall be securely attached thereto. In combustible construction where the *fire partitions* are not required to be continuous to the sheathing, deck or slab, the space between the ceiling and the sheathing, deck or slab above shall be fireblocked or draftstopped in accordance with Sections 718.2 and 718.3 at the partition line. The supporting construction shall be protected to afford the required *fire-resistance rating* of the wall supported, except in buildings of Type IIB, IIIB and VB construction for walls separating tenant spaces in *covered and open mall buildings*, walls separating *dwelling units*, walls separating *sleeping units, corridor* walls, *fire partitions* separating *dwelling* and *sleeping units* from Group R-1 and R-2 occupancies and *fire partitions* separating vestibules from the *level of exit discharge*.

Exceptions:

1. The wall need not be extended into the crawl space below where the floor above the crawl space has a minimum 1-hour *fire-resistance rating*.
2. Where the room-side fire-resistance-rated membrane of the *corridor* is carried through to the underside of the floor or roof sheathing, deck or slab of a fire-resistance-rated floor or roof above, the ceiling of the *corridor* shall be permitted to be protected by the use of ceiling materials as required for a 1-hour fire-resistance-rated floor or roof system.
3. Where the *corridor* ceiling is constructed as required for the *corridor* walls, the walls shall be permitted to terminate at the upper membrane of such ceiling assembly.
4. The fire partitions separating tenant spaces in a *covered or open mall building*, complying with Section 402.4.2.1, are not required to extend beyond the underside of a ceiling that is not part of a fire-resistance-rated assembly. A wall is not required in *attic* or ceiling spaces above tenant separation walls.
5. Attic fireblocking or ~~draftstopping~~ *draftstop*is not required at the partition line in Group R-2 buildings that do not exceed four *stories above grade plane*, provided the *attic* space is subdivided by ~~draftstopping~~ *draftstop* into areas not exceeding 3,000 square feet (279 m^2) or above every two *dwelling units*, whichever is smaller.
6. Fireblocking or ~~draftstopping~~ *draftstop* is not required at the partition line in buildings equipped with an *automatic sprinkler system* installed throughout in accordance with Section 903.3.1.1 or 903.3.1.2, provided that automatic sprinklers are installed in combustible floor/ceiling and roof/ceiling spaces.

713.11 Enclosure at the bottom.
Shafts that do not extend to the bottom of the building or structure shall comply with one of the following:

1. They shall be enclosed at the lowest level with construction of the same *fire-resistance rating* as the lowest floor through which the shaft passes, but not less than the rating required for the shaft enclosure.
2. They shall terminate in a room having a use related to the purpose of the shaft. The room shall be separated from the remainder of the building by *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. The *fire-resistance rating* and opening protectives shall be not less than the protection required for the shaft enclosure.
3. They shall be protected by *approved fire dampers* installed in accordance with their listing at the lowest floor level within the shaft enclosure.

Exceptions:

1. The fire-resistance-rated room separation is not required, provided there are no openings in or penetrations of the shaft enclosure to the interior of the building except at the bottom. The bottom of the shaft shall be closed off around the penetrating items with materials permitted by Section 718.3.1 for ~~draftstopping~~ *draftstop*, or the room shall be provided with an *approved automatic sprinkler system*.
2. A shaft enclosure containing a waste or linen chute shall not be used for any other purpose and shall discharge in a room protected in accordance with Section 713.13.4.
3. The fire-resistance-rated room separation and the protection at the bottom of the shaft are not required provided there are no combustibles in the shaft and there are no openings or other penetrations through the shaft enclosure to the interior of the building.

718.1 General.
Fireblocking and ~~draftstopping~~ *draftstop* shall be installed in combustible concealed locations in accordance with this section. *Fireblocking* shall comply with Section 718.2. ~~Draftstopping~~ *draftstop* in floor/ceiling spaces and *attic* spaces shall comply with Sections 718.3 and 718.4, respectively. The permitted use of combustible materials in concealed spaces of buildings of Type I or II construction shall be limited to the applications indicated in Section 718.5.

718.3 Draftstopping*Draftstop*in floors.
In combustible construction, ~~draftstopping~~ *draftstop* shall be installed to subdivide floor/ceiling assemblies in the locations prescribed in Sections 718.3.2 through 718.3.3.

Page: 1

Mod12225_TextOfModification.pdf

F12225Text Modification

718.3.1 ~~Draftstopping~~*Draftstop* materials.

~~Draftstopping~~*Draftstop* materials shall be not less than $^{1}/_{2}$-inch (12.7 mm) gypsum board, $^{3}/_{8}$-inch (9.5 mm) wood structural panel, $^{3}/_{8}$-inch (9.5 mm) particleboard, 1-inch (25-mm) nominal lumber, cement fiberboard, batts or blankets of *mineral wool* or glass fiber, or other *approved* materials adequately supported. The integrity of *draftstops* shall be maintained.

718.3.2 Groups R-1, R-2, R-3 and R-4.

~~Draftstopping~~*Draftstop* shall be provided in floor/ceiling spaces in Group R-1 buildings, in Group R-2 buildings with three or more *dwelling units*, in Group R-3 buildings with two *dwelling units* and in Group R-4 buildings. ~~Draftstopping~~ *Draftstop* shall be located above and in line with the *dwelling unit* and *sleeping unit* separations.

Exceptions:

1. ~~Draftstopping~~*Draftstop* is not required in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
2. ~~Draftstopping~~*Draftstop* is not required in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.2, provided that automatic sprinklers are installed in the combustible concealed spaces where the ~~draftstopping~~ *draftstop* is being omitted.

718.3.3 Other groups.

In other groups, ~~draftstopping~~ *draftstop* shall be installed so that horizontal floor areas do not exceed 1,000 square feet (93 m^2).

Exception: ~~Draftstopping~~ *Draftstop* is not required in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

718.4 Draftstopping*Draftstop* in attics.

In combustible construction, ~~draftstopping~~ *draftstop* shall be installed to subdivide *attic* spaces and concealed roof spaces in the locations prescribed in Sections 718.4.2 and 718.4.3. Ventilation of concealed roof spaces shall be maintained in accordance with Section 1203.2.

718.4.1 Draftstopping*Draftstop* materials.

Materials utilized for ~~draftstopping~~ *draftstop* of *attic* spaces shall comply with Section 718.3.1.

718.4.1.1 Openings.

Openings in the partitions shall be protected by *self-closing* doors with automatic latches constructed as required for the partitions.

718.4.2 Groups R-1 and R-2.

~~Draftstopping~~*Draftstop* shall be provided in *attics*, mansards, overhangs or other concealed roof spaces of Group R-2 buildings with three or more *dwelling units* and in all Group R-1 buildings. ~~Draftstopping~~ *Draftstop* shall be installed above, and in line with, *sleeping unit* and *dwelling unit* separation walls that do not extend to the underside of the roof sheathing above.

Exceptions:

1. Where *corridor* walls provide a *sleeping unit* or *dwelling unit* separation, ~~draftstopping~~ *draftstop* shall only be required above one of the *corridor* walls.
2. ~~Draftstopping~~*Draftstop* is not required in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. In occupancies in Group R-2 that do not exceed four *stories above grade plane*, the *attic* space shall be subdivided by *draftstops* into areas not exceeding 3,000 square feet (279 m^2) or above every two *dwelling units*, whichever is smaller.
4. ~~Draftstopping~~*Draftstop* is not required in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.2, provided that automatic sprinklers are installed in the combustible concealed space where the ~~draftstopping~~ *draftstop*is being omitted.

718.4.3 Other groups.

~~Draftstopping~~*Draftstop* shall be installed in *attics* and concealed roof spaces, such that any horizontal area does not exceed 3,000 square feet (279 m^2).

Exception: ~~Draftstopping~~ *Draftstop* is not required in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

Page: 2

Mod12225_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

35

F12244

Date Submitted	02/17/2025	**Section**	7	**Proponent**	Cade Booth
Chapter	7	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language Yes**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

Alternate Language

1st Comment Period History

F12244-A1

Proponent Cade Booth **Submitted** 3/24/2025 8:43:35 PM **Attachments** Yes

Rationale:

For alignment with the FBC, please correct the following reference: 1. Section 722.7.1 should reference Section 703.8 (not section 703.6). Once corrected, this section should read as follows: ~~ language preceding in original modification proposal to remain unchanged^^ 722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, noncombustible protection shall be provided for mass timber building elements in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the noncombustible protection of mass timber building elements, components or assemblies, shall be established in accordance with Section 703.8. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2. ~~language following this section in original modification proposal to remain the same^^ Thank you.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

Impact to building and property owners relative to cost of compliance with code

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

Impact to industry relative to the cost of compliance with code

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No change in original statements. Proposal is correction of a reference for alignment with FBC.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No change in original statements. Proposal is correction of a reference for alignment with FBC.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No change in original statements. Proposal is correction of a reference for alignment with FBC.

Does not degrade the effectiveness of the code

No change in original statements. Proposal is correction of a reference for alignment with FBC.

F12244-A1Text Modification

<< language preceding in original modification proposal to remain unchanged>>

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, noncombustible protection shall be provided for mass timber building elements in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the noncombustible protection of mass timber building elements, components or assemblies, shall be established in accordance with Section ~~703.6~~ 703.8. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

<<language following this section in original modification proposal to remain the same>>

Page: 1

Mod12244_A1_TextOfModification.pdf

F12244Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703

FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

Test Assembly 1 shall be without protection.

Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, joint sealing details, accessories and all other relevant details

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.

2. At abutting intersections of *mass timber building elements* and building elements of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

SECTION 705

PROJECTIONS

Revise table as follows:

TABLE 705.5

Page: 1

Mod12244_TextOfModification.pdf

F12244Text Modification

FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRESEPARATIONDISTANCE=X(feet)	TYPEOFCONSTRUCTION	OCCUPANCYGROUPH[e]	OCCUPANCYGROUPF-1,M,S-1[f]	OCCUPANCY GROUPA,B,E,F-2,I,R,S-2,U[h]
X< 5[b]	All	3	2	1
5= X<10	IA,IVA	3	2	1
	Others	2	1	1
10= X<30	IA, IB,IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X=30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 2

Mod12244_TextOfModification.pdf

SECTION 718

CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.

F12244Text Modification

4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.

5. One-half-inch (12.7 mm) *gypsum board*.

6. One-fourth-inch (6.4 mm) cement-based millboard.

7. Batts or blankets of *mineral wool, mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.

8. Cellulose insulation installed as tested for the specific application.

9. Mass timber complying with Section 2304.11.

10. One thickness of 19/32-inch (15.1 mm) *fire-retardant-treated wood structural panel* complying with Section 2303.2.

SECTION 722

CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection.*

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the noncombustible protection of mass timber building elements, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)

PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIREDFIRE-RESISTANCERATINGOFBUILDING ELEMENTPERTable601ANDTable 602 (hours)	MINIMUMPROTECTIONREQUIREDFROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3ormore	120

TABLE 722.7.1(2)

Page: 3

Mod12244_TextOfModification.pdf

F12244Text Modification

PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTIONCONTRIBUTION(minutes)
1/2-inchTypeXgypsumboard	25
5/8-inchTypeXgypsumboard	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of T*ype X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an exterior wall or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected mass timber elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 4

Mod12244_TextOfModification.pdf

F12244Text Modification

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 5

Mod12244_TextOfModification.pdf

F12244Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

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Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

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glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

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SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

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4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

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F12244Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

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CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R_h	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

18

Page: 21

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24

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F12244Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

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CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12244_Text_FBC Mass Timber Full Package - ch 7.pdf

F12244-A1Rationale

For alignment with the FBC, please correct the following reference:

1. Section 722.7.1 should reference Section 703.8 (not section 703.6).

Once corrected, this section should read as follows:

<< language preceding in original modification proposal to remain unchanged>>

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, noncombustible protection shall be provided for mass timber building elements in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the noncombustible protection of mass timber building elements, components or assemblies, shall be established in accordance with Section ~~703.6~~ 703.8. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

<<language following this section in original modification proposal to remain the same>>

Thank you.

Page: 1

Mod_12244_A1_Rationale_F12244 comment for ALIGNMENT.pdf

F12244Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12244_Rationale_FBC Mass Timber Summary.pdf

F12244Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12244_Rationale_FBC Mass Timber Summary.pdf

F12244Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12244_Rationale_FBC Mass Timber Summary.pdf

F12244Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12244_Rationale_FBC Mass Timber Rationale.pdf

F12244Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12244_Rationale_FBC Mass Timber Rationale.pdf

F12244Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12244_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

36

F12266

Date Submitted	02/18/2025	**Section**	703.8	**Proponent**	Cade Booth
Chapter	7	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12266Text Modification

CHAPTER 7

FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new section as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the fire-resistance rating by the noncombustible protection of mass timber building elements, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the noncombustible protection. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.

2. Test Assembly 2 shall include the representative noncombustible protection. The protection shall be fully defined in terms of configuration details, attachment details, joint sealing details, accessories and all other relevant details.

The noncombustible protection time contribution shall be determined by subtracting the fire-resistance time, in minutes, of Test Assembly 1 from the fire-resistance time, in minutes, of Test Assembly 2.

Page: 1

Mod12266_TextOfModification.pdf

F12266Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12266_Text_703.8.pdf

F12266Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12266_Text_703.8.pdf

F12266Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12266_Text_703.8.pdf

F12266Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12266_Text_703.8.pdf

F12266Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

Exception: Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

Exception: Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

602.4.1 Type IV-A. *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.1.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12266_Text_703.8.pdf

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less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12266_Text_703.8.pdf

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permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12266_Text_703.8.pdf

F12266Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12266_Text_703.8.pdf

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glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12266_Text_703.8.pdf

F12266Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12266_Text_703.8.pdf

F12266Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12266_Text_703.8.pdf

F12266Text Modification

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12266_Text_703.8.pdf

F12266Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12266_Text_703.8.pdf

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4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12266_Text_703.8.pdf

F12266Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12266_Text_703.8.pdf

F12266Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12266_Text_703.8.pdf

F12266Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12266_Text_703.8.pdf

F12266Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12266_Text_703.8.pdf

F12266Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12266_Text_703.8.pdf

F12266Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R[h]	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
Mod_12266_Text_703.8.pdf

F12266Text Modification

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Mod_12266_Text_703.8.pdf Page: 21

F12266Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12266_Text_703.8.pdf

F12266Text Modification

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

Mod_12266_Text_703.8.pdf

F12266Text Modification

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24
Mod_12266_Text_703.8.pdf

F12266Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12266_Text_703.8.pdf

F12266Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12266_Text_703.8.pdf

F12266Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12266_Text_703.8.pdf

F12266Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12266_Text_703.8.pdf

F12266Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12266_Text_703.8.pdf

F12266Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12266_Text_703.8.pdf

F12266Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12266_Text_703.8.pdf

F12266Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12266_Rationale_FBC Mass Timber Summary.pdf

F12266Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12266_Rationale_FBC Mass Timber Summary.pdf

F12266Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12266_Rationale_FBC Mass Timber Summary.pdf

F12266Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12266_Rationale_FBC Mass Timber Rationale.pdf

F12266Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12266_Rationale_FBC Mass Timber Rationale.pdf

F12266Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12266_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

37

F12267

Date Submitted	02/18/2025	**Section**	703.9	**Proponent**	Cade Booth
Chapter	7	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12267Text Modification

CHAPTER 7

FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new section as follows:

703.9 Sealing of adjacent mass timber elements. In buildings of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of mass timber building elements required to be fire-resistance rated.

2. At abutting intersections of mass timber building elements and building elements of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 1

Mod12267_TextOfModification.pdf

F12267Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12267_Text_703.9.pdf

F12267Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12267_Text_703.9.pdf

F12267Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12267_Text_703.9.pdf

F12267Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12267_Text_703.9.pdf

F12267 Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12267_Text_703.9.pdf

F12267Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12267_Text_703.9.pdf

F12267Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12267_Text_703.9.pdf

F12267Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12267_Text_703.9.pdf

F12267Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12267_Text_703.9.pdf

F12267Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12267_Text_703.9.pdf

F12267Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12267_Text_703.9.pdf

F12267Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12267_Text_703.9.pdf

F12267Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12267_Text_703.9.pdf

F12267Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12267_Text_703.9.pdf

F12267Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

F12267Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12267_Text_703.9.pdf

F12267Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12267_Text_703.9.pdf

F12267Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12267_Text_703.9.pdf

F12267Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12267_Text_703.9.pdf

F12267Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
Mod_12267_Text_703.9.pdf

F12267Text Modification

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Mod_12267_Text_703.9.pdf Page: 21

F12267Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12267_Text_703.9.pdf

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

Mod_12267_Text_703.9.pdf

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24
Mod_12267_Text_703.9.pdf

F12267Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12267_Text_703.9.pdf

F12267Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12267_Text_703.9.pdf

F12267Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12267_Text_703.9.pdf

F12267Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12267_Text_703.9.pdf

F12267Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12267_Text_703.9.pdf

F12267Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30
Mod_12267_Text_703.9.pdf

F12267Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12267_Text_703.9.pdf

F12267Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

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F12267Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12267_Rationale_FBC Mass Timber Summary.pdf

F12267Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12267_Rationale_FBC Mass Timber Summary.pdf

F12267Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12267_Rationale_FBC Mass Timber Rationale.pdf

F12267Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12267_Rationale_FBC Mass Timber Rationale.pdf

F12267Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12267_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

38

F12268

Date Submitted	02/18/2025	**Section**	705.5	**Proponent**	Cade Booth
Chapter	7	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12268Text Modification

CHAPTER 7

FIRE AND SMOKE PROTECTION FEATURES

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5

FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE=X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X< 5[b]	All	3	2	1
5= X<10	IA,IVA	3	2	1
	Others	2	1	1
10= X<30	IA, IB,IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X=30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a.Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.

b.See Section 706.1.1 for party walls.

c.Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.

d.The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.

e.For special requirements for Group H occupancies, see Section 415.6.

f.For special requirements for Group S aircraft hangars, see Section 412.4.1.

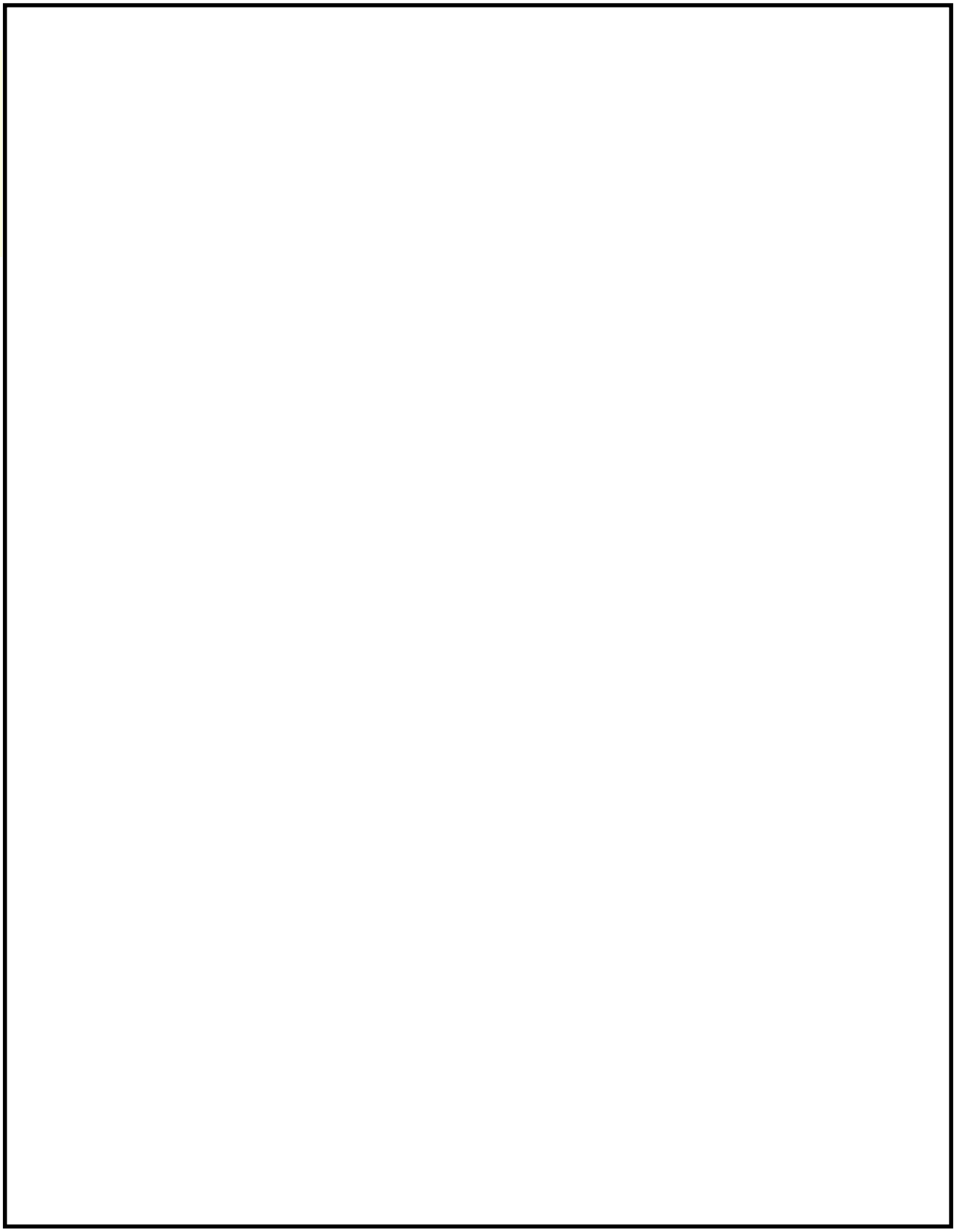
g.Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.

h.For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 1

Mod12268_TextOfModification.pdf

F12268Text Modification



Mod12268_TextOfModification.pdf Page: 2

F12268Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12268_Text_705.5.pdf

F12268Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12268_Text_705.5.pdf

F12268Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12268_Text_705.5.pdf

F12268Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12268_Text_705.5.pdf

F12268Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the *noncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12268_Text_705.5.pdf

F12268Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12268_Text_705.5.pdf

F12268Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12268_Text_705.5.pdf

F12268Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12268_Text_705.5.pdf

F12268Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12268_Text_705.5.pdf

F12268Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12268_Text_705.5.pdf

F12268Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12268_Text_705.5.pdf

F12268Text Modification

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12268_Text_705.5.pdf

F12268Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12268_Text_705.5.pdf

F12268Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12268_Text_705.5.pdf

F12268Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12268_Text_705.5.pdf

F12268Text Modification

CHAPTER 33

SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12268_Text_705.5.pdf

F12268Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12268_Text_705.5.pdf

F12268Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12268_Text_705.5.pdf

F12268Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12268_Text_705.5.pdf

F12268Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
Mod_12268_Text_705.5.pdf

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Mod_12268_Text_705.5.pdf Page: 21

F12268Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12268_Text_705.5.pdf

F12268Text Modification

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

Mod_12268_Text_705.5.pdf

F12268Text Modification

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

21

Page: 24

Mod_12268_Text_705.5.pdf

F12268Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12268_Text_705.5.pdf

F12268Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12268_Text_705.5.pdf

F12268Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12268_Text_705.5.pdf

F12268Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12268_Text_705.5.pdf

F12268Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12268_Text_705.5.pdf

F12268Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12268_Text_705.5.pdf

F12268Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12268_Text_705.5.pdf

F12268Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12268_Rationale_FBC Mass Timber Summary.pdf

F12268Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12268_Rationale_FBC Mass Timber Summary.pdf

F12268Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12268_Rationale_FBC Mass Timber Summary.pdf

F12268Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12268_Rationale_FBC Mass Timber Rationale.pdf

F12268Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12268_Rationale_FBC Mass Timber Rationale.pdf

F12268Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12268_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

39

F12269

Date Submitted	02/18/2025	**Section**	718.2.1	**Proponent**	Cade Booth
Chapter	7	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12269Text Modification

CHAPTER 7

FIRE AND SMOKE PROTECTION FEATURES

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. Fireblocking shall consist of the following materials:

1.Two-inch (51 mm) nominal lumber.

2.Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.

3.One thickness of 0.719-inch (18.3 mm) wood structural panels with joints backed by 0.719-inch (18.3 mm) wood structural panels.

4.One thickness of 0.75-inch (19.1 mm) particleboard with joints backed by 0.75-inch (19 mm) particleboard.

5.One-half-inch (12.7 mm) gypsum board.

6.One-fourth-inch (6.4 mm) cement-based millboard.

7.Batts or blankets of mineral wool, mineral fiber or other approved materials installed in such a manner as to be securely retained in place.

8.Cellulose insulation installed as tested for the specific application.

9.Mass timber complying with Section 2304.11.

10.One thickness of 19/32-inch (15.1 mm) fire-retardant-treated wood structural panel complying with Section 2303.2.

Page: 1

Mod12269_TextOfModification.pdf

F12269Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

F12269Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

FBC 9th edition – Mass Timber Package

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R[h]	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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18

Page: 21

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12269_Text_718.2.1.pdf

F12269Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12269_Text_718.2.1.pdf

F12269Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12269_Text_718.2.1.pdf

F12269Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12269_Rationale_FBC Mass Timber Summary.pdf

F12269Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12269_Rationale_FBC Mass Timber Summary.pdf

F12269Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12269_Rationale_FBC Mass Timber Summary.pdf

F12269Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12269_Rationale_FBC Mass Timber Rationale.pdf

F12269Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12269_Rationale_FBC Mass Timber Rationale.pdf

F12269Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12269_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

40

F12270

Date Submitted	02/18/2025	**Section**	722.7	**Proponent**	Cade Booth
Chapter	7	**Affects HVHZ**	No	**Attachments**	Yes
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language Yes**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber's history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

Alternate Language

1st Comment Period History

F12270-A1

Proponent Cade Booth **Submitted** 3/24/2025 2:59:10 PM **Attachments** Yes

Rationale:

For alignment with the FBC, please correct the following reference: 1. Section 722.7.1 should reference Section 703.8 (not section 703.6). Once corrected, this section should read as follows: ~~ language preceding in original modification proposal to remain unchanged^^ 722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, noncombustible protection shall be provided for mass timber building elements in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the noncombustible protection of mass timber building elements, components or assemblies, shall be established in accordance with Section 703.8. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2. ~~language following this section in original modification proposal to remain the same^^ Thank you.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

no changes from original impact statements. (FBC reference alignment correction)

Impact to building and property owners relative to cost of compliance with code

no changes from original impact statements. (FBC reference alignment correction)

Impact to industry relative to the cost of compliance with code

no changes from original impact statements. (FBC reference alignment correction)

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

no changes from original statements. (FBC reference alignment correction).

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

no changes from original statements. (FBC reference alignment correction).

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

no changes from original statements. (FBC reference alignment correction).

Does not degrade the effectiveness of the code

no changes from original statements. (FBC reference alignment correction).

F12270-A1Text Modification

<< language preceding in original modification proposal to remain unchanged>>

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, noncombustible protection shall be provided for mass timber building elements in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the noncombustible protection of mass timber building elements, components or assemblies, shall be established in accordance with Section ~~703.6~~ 703.8. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

<<language following this section in original modification proposal to remain the same>>

Page: 1

Mod12270_A1_TextOfModification.pdf

F12270Text Modification

CHAPTER 7

FIRE AND SMOKE PROTECTION FEATURES

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new section as follows:

722.7 Fire-resistance rating for mass timber. The required fire resistance of mass timber elements in Section 602.4 shall be determined in accordance with Section 703.2. The fire-resistance rating of building elements shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The fire-resistance rating of the mass timber elements shall consist of the fire resistance of the unprotected element added to the protection time of the noncombustible protection.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, noncombustible protection shall be provided for mass timber building elements in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the noncombustible protection of mass timber building elements, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3ormore	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION(minutes)
1/2-inch TypeX gypsum board	25
5/8-inch TypeX gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. Gypsum board complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of Type X gypsum board serving as noncombustible protection for interior surfaces of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the mass timber at least 1 inch (25 mm) when driven flush with the paper surface of the gypsum board.

Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

Page: 1

Mod12270_TextOfModification.pdf

F12270Text Modification

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an exterior wall or a wall with a greater fire-resistance rating shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting mass timber elements adjacent to unprotected mass timber elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of Type X gypsum board serving as noncombustible protection for the outside of the exterior mass timber walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the mass timber a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the mass timber a minimum of 1 inch (25 mm).

Page: 2

Mod12270_TextOfModification.pdf

F12270Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12270_Text_722.7.pdf

F12270Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12270_Text_722.7.pdf

F12270Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12270_Text_722.7.pdf

F12270Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12270_Text_722.7.pdf

F12270Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the *noncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12270_Text_722.7.pdf

F12270Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12270_Text_722.7.pdf

F12270Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12270_Text_722.7.pdf

F12270Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12270_Text_722.7.pdf

F12270Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12270_Text_722.7.pdf

F12270Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12270_Text_722.7.pdf

F12270Text Modification

FBC 9th edition – Mass Timber Package

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12270_Text_722.7.pdf

F12270Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12270_Text_722.7.pdf

F12270Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12270_Text_722.7.pdf

F12270Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12270_Text_722.7.pdf

F12270Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12270_Text_722.7.pdf

F12270Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12270_Text_722.7.pdf

F12270Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12270_Text_722.7.pdf

F12270Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18
Mod_12270_Text_722.7.pdf

F12270Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12270_Text_722.7.pdf

F12270Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
Mod_12270_Text_722.7.pdf

F12270Text Modification

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION													
	See Footnotes	Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Mod_12270_Text_722.7.pdf Page: 21

F12270Text Modification

FBC 9th edition – Mass Timber Package

TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

Page: 22

Mod_12270_Text_722.7.pdf

F12270Text Modification

FBC 9th edition – Mass Timber Package

SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23
Mod_12270_Text_722.7.pdf

F12270Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24
Mod_12270_Text_722.7.pdf

F12270Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12270_Text_722.7.pdf

F12270Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12270_Text_722.7.pdf

F12270Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12270_Text_722.7.pdf

F12270Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12270_Text_722.7.pdf

F12270Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12270_Text_722.7.pdf

F12270Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12270_Text_722.7.pdf

F12270Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12270_Text_722.7.pdf

F12270-A1Rationale

For alignment with FBC, please correct the following reference:

1. section 722.7.1 should reference Section 703.8 (not section 703.6)

Once corrected, this section should read as follows:

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.8. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

Thank you.

Page: 1

Mod_12270_A1_Rationale_F12270 comment for ALIGNMENT.pdf

F12270Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12270_Rationale_FBC Mass Timber Summary.pdf

F12270Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12270_Rationale_FBC Mass Timber Summary.pdf

F12270Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12270_Rationale_FBC Mass Timber Summary.pdf

F12270Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12270_Rationale_FBC Mass Timber Rationale.pdf

F12270Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12270_Rationale_FBC Mass Timber Rationale.pdf

F12270Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12270_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

41

F11693

Date Submitted	02/17/2025	**Section**	907.4.2.5.1	**Proponent**	Jonas Carsten
Chapter	9	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language Yes**

Related Modifications

Summary of Modification

Allow break-glass covers for manual fire alarm boxes.

Rationale

Break-glass covers are a strong, visible deterrent to malicious false alarms. There are various break-glass covers on the market currently. The code is currently unclear as to whether these covers are allowed which could lead to conflicting interpretations. This change allows break-glass covers statewide and establishes guidelines.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None, there are no costs to enforce the criteria for break glass covers. The criteria can be easily verified and one of the criteria is specifically meant to avoid any difficulties when inspecting/testing the manual fire alarm box.

Impact to building and property owners relative to cost of compliance with code

See support file 2

Impact to industry relative to the cost of compliance with code

If building owners choose to install break-glass covers, manufacturers of break-glass covers might see an increase in demand, and therefore, production costs but these costs would be offset by sales revenue.

Impact to small business relative to the cost of compliance with code

See support file 2

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

False alarms can put a significant burden on local fire departments whose resources are distracted from actual emergencies. False alarms also cause occupants to become complacent and they may ignore the alarm during an actual fire. This modification allows another option for reducing false alarms.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, this modification improves safety by allowing a better option for reducing false alarms.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This modification does not take away the existing options for reducing false alarms such as ordinary lift-pull covers.

Does not degrade the effectiveness of the code

There is no negative impact on the effectiveness of the code as the modification includes criteria to ensure the alarm can still be activated in an actual fire.

Alternate Language

1st Comment Period History

11693-A1

Proponent Jonas Carsten **Submitted** 4/14/2025 11:24:34 AM **Attachments** No

Rationale:

This modificiation clarifies that other frangible elements (e.g. a breakable piece of plastic) are also permitted and makes the text more consistent with a proposed amendment (P2-01) that I submitted for the Florida Fire Prevention Code.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Same as original proposal.

Impact to building and property owners relative to cost of compliance with code

Same as original proposal.

Impact to industry relative to the cost of compliance with code

Same as original proposal.

Impact to small business relative to the cost of compliance with code

See support file 2

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Same as original proposal. Also: every false alarm also can lead to business interruption and reputational harm (e.g. sites like TripAdvisor have negative reviews for hotels due to false alarms). Deterrents like protective covers are a great tool to avoid false alarms and the ensuing consequences.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Same as original proposal.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This comment clarifies that additional options such as a breakable plastic element, which can serve the same function as a piece of glass, are allowed.

Does not degrade the effectiveness of the code

Same as original proposal.

F11693-A1Text Modification

907.4.2.5.1 Protective covers with a frangible element. Protective covers that require a glass or other frangible element to be broken in order to activate the manual fire alarm box shall be permitted where the following apply:

1. A means is provided to allow the glass or other frangible element to be broken in case of fire, without undue risk of injury.

2. A means is provided to allow authorized personnel to open the cover without breaking the glass or other frangible element.

3. When authorized personnel open the cover, the manual fire alarm box shall be capable of being reset and operationally tested without the need to remove or disassemble other components of the cover.

Page: 1

Mod11693_A1_TextOfModification.pdf

F11693Text Modification

907.4.2.5.1 Break-glass covers. Break-glass covers shall be permitted to be installed over manual fire alarm boxes, provided that the following requirements are met:

1. The break-glass cover shall be equipped with a means to allow the glass to be broken in case of fire, without undue risk of injury.

2. A means shall be provided to allow authorized personnel to open the break-glass cover without breaking the glass.

3. When the means specified in item 2 is used to open the break-glass cover, the manual fire alarm box shall be capable of being reset and operationally tested, without removing or disassembling additional elements of the break-glass cover such as a mounting bracket.

Page: 1

Mod11693_TextOfModification.pdf

Support File for FBC Break-Glass Cover Modification

Examples of break-glass covers:



Note, the model above has a tamper-resistant screw on the bottom to allow the cover to be opened without breaking the glass.



F11693Impact Statement

Support File 2 for FBC Break-Glass Cover Modification

Impact to building and property owners relative to cost of compliance with code (553.73(9)(b),F.S.)*
None, there is no requirement to install break-glass covers.
However, there are indirect cost decreases due to reduced false alarms. Every false alarm can mean serious operational disruption and fire department response fees (and in places like hotels, significant damage to the property's brand and reputation). Being able to avoid even one false alarm could have significant cost savings and other benefits.

Impact to small business relative to the cost of compliance with code (553.73(9)(b),F.S.)*
Same as above, however, the operational disruption caused by a false alarm is even more serious in small businesses like restaurants. For instance, food that's being cooked must be abandoned during an evacuation and subsequently needs to be discarded.
Therefore, there are significant benefits to being able to avoid even one false alarm.

Page: 1

Mod_11693_Impact_Break Glass Support 2 FBC.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

42

F11779

Date Submitted	01/18/2025	**Section**	901.6.1	**Proponent**	Greg Burke
Chapter	9	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

901.6.2 903.3.1.3 907.6.6

Summary of Modification

Correlation for addition of three- and four- family dwellings to the scope.

Rationale

Housing and skilled labor is at a crisis point in the United States. Demand is outpacing supply in a critical way. To entice development and local authorities in providing more options for first time buyers or those who are wishing to down-size, the scope change will enable an opportunity for choice, Moving these two dwelling types into the FBC,R allows construction in an equivalent manner to single-, two-family, and townhouses buildings. More cost savings can come in the form of reduced egress requirements. Single exits could be required that would have stairs meet the riser/tread dimensions reduced from the commercial maximum requirement to the residential requirements for treads and risers. In Occupancy Group R2, under the FBC,B live load will be reduced to 40 psf from the commercial requirement of 100 psf. Other sections of the FBC,R may allow for potential for smaller HVAC units. Financial institutions finance these two types of dwelling units as single-family homes. It is not until a building has five or more residential units that the financing is a commercial loan. For this reason alone, three-family, and four-family dwelling units should be included in the FBC,R. It is possible to purchase these dwellings with an FHA Loan. Realtors in Florida are also permitted to sell up to four units on a residential license. With proper zoning, three-family and four-family dwelling units can be designed and constructed to be compatible in single-family neighborhoods. Most can be constructed within a 35-foot height limit, common in many parts of the state. Normally, three-family, and four-family dwellings are two, two and one-half or three stories above the grade plane making them compatible with a single-family or two-family home. The footprint of either a three- or a four-family building could be designed and constructed in dimensions of forty feet by sixty feet.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The less restrictive application of a residential code souldlessen the burden on enforcement.

Impact to building and property owners relative to cost of compliance with code

Less expensive construction and sales cost.

Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The design of three- and four-family dwelligs are similar in nature to a duplex. As such the dgree of health, safety and elfare is enhanced by admitting these two dwelling types to the residential code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The modification is in line with industry standards for financing and sales.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No.
Does not degrade the effectiveness of the code
No.

F11779Text Modification

Exceptions:

1. A supervising station is not required for *automatic sprinkler systems* protecting one-, ~~and~~ two-, three-, and four-family *dwellings*.

Page: 1

Mod11779_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

43

F11780

Date Submitted	01/18/2025	**Section**	901.6.2	**Proponent**	Greg Burke
Chapter	9	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

901.6.1 903.3.1.3 907.6.6

Summary of Modification

Correlation for addition of three- and four- family dwellings to the scope.

Rationale

Housing and skilled labor is at a crisis point in the United States. Demand is outpacing supply in a critical way. To entice development and local authorities in providing more options for first time buyers or those who are wishing to down-size, the scope change will enable an opportunity for choice, Moving these two dwelling types into the FBC,R allows construction in an equivalent manner to single-, two-family, and townhouses buildings. More cost savings can come in the form of reduced egress requirements. Single exits could be required that would have stairs meet the riser/tread dimensions reduced from the commercial maximum requirement to the residential requirements for treads and risers. In Occupancy Group R2, under the FBC,B live load will be reduced to 40 psf from the commercial requirement of 100 psf. Other sections of the FBC,R may allow for potential for smaller HVAC units. Financial institutions finance these two types of dwelling units as single-family homes. It is not until a building has five or more residential units that the financing is a commercial loan. For this reason alone, three-family, and four-family dwelling units should be included in the FBC,R. It is possible to purchase these dwellings with an FHA Loan. Realtors in Florida are also permitted to sell up to four units on a residential license. With proper zoning, three-family and four-family dwelling units can be designed and constructed to be compatible in single-family neighborhoods. Most can be constructed within a 35-foot height limit, common in many parts of the state. Normally, three-family, and four-family dwellings are two, two and one-half or three stories above the grade plane making them compatible with a single-family or two-family home. The footprint of either a three- or a four-family building could be designed and constructed in dimensions of forty feet by sixty feet.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The less restrictive application of a residential code souldlessen the burden on enforcement.

Impact to building and property owners relative to cost of compliance with code

Less expensive construction and sales cost.

Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The design of three- and four-family dwelligs are similar in nature to a duplex. As such the dgree of health, safety and elfare is enhanced by admitting these two dwelling types to the residential code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The modification is in line with industry standards for financing and sales.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No.
Does not degrade the effectiveness of the code
No.

F11780Text Modification

Exceptions:

Supervisory service is not required for *automatic sprinkler systems* protecting one-, ~~and~~ two-, three-, and four-family *dwellings*

Page: 1

Mod11780_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

44

F11781

Date Submitted	01/18/2025	**Section**	903.3.1.3	**Proponent**	Greg Burke
Chapter	9	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

901.6.1 901.6.2 907.6.6

Summary of Modification

Correlation for addition of three- and four- family dwellings to the scope.

Rationale

Housing and skilled labor is at a crisis point in the United States. Demand is outpacing supply in a critical way. To entice development and local authorities in providing more options for first time buyers or those who are wishing to down-size, the scope change will enable an opportunity for choice, Moving these two dwelling types into the FBC,R allows construction in an equivalent manner to single-, two-family, and townhouses buildings. More cost savings can come in the form of reduced egress requirements. Single exits could be required that would have stairs meet the riser/tread dimensions reduced from the commercial maximum requirement to the residential requirements for treads and risers. In Occupancy Group R2, under the FBC,B live load will be reduced to 40 psf from the commercial requirement of 100 psf. Other sections of the FBC,R may allow for potential for smaller HVAC units. Financial institutions finance these two types of dwelling units as single-family homes. It is not until a building has five or more residential units that the financing is a commercial loan. For this reason alone, three-family, and four-family dwelling units should be included in the FBC,R. It is possible to purchase these dwellings with an FHA Loan. Realtors in Florida are also permitted to sell up to four units on a residential license. With proper zoning, three-family and four-family dwelling units can be designed and constructed to be compatible in single-family neighborhoods. Most can be constructed within a 35-foot height limit, common in many parts of the state. Normally, three-family, and four-family dwellings are two, two and one-half or three stories above the grade plane making them compatible with a single-family or two-family home. The footprint of either a three- or a four-family building could be designed and constructed in dimensions of forty feet by sixty feet.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The less restrictive application of a residential code souldlessen the burden on enforcement.

Impact to building and property owners relative to cost of compliance with code

Less expensive construction and sales cost.

Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The design of three- and four-family dwelligs are similar in nature to a duplex. As such the dgree of health, safety and elfare is enhanced by admitting these two dwelling types to the residential code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The modification is in line with industry standards for financing and sales.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No.
Does not degrade the effectiveness of the code
No.

F11781Text Modification

Automatic sprinkler systems installed in one-, ~~and~~ two-, three- and four-family *dwellings*; Group R2,Group R3, Group R4 Condition 1 and *townhouses* shall be permitted to be installed throughout in accordance with NFPA 13D.

Page: 1

Mod11781_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

45

F11782

Date Submitted	01/18/2025	**Section**	907.6.6	**Proponent**	Greg Burke
Chapter	9	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

901.6.1 901.6.2 903.3.1.3

Summary of Modification

Correlation for addition of three- and four- family dwellings to the scope.

Rationale

Housing and skilled labor is at a crisis point in the United States. Demand is outpacing supply in a critical way. To entice development and local authorities in providing more options for first time buyers or those who are wishing to down-size, the scope change will enable an opportunity for choice, Moving these two dwelling types into the FBC,R allows construction in an equivalent manner to single-, two-family, and townhouses buildings. More cost savings can come in the form of reduced egress requirements. Single exits could be required that would have stairs meet the riser/tread dimensions reduced from the commercial maximum requirement to the residential requirements for treads and risers. In Occupancy Group R2, under the FBC,B live load will be reduced to 40 psf from the commercial requirement of 100 psf. Other sections of the FBC,R may allow for potential for smaller HVAC units. Financial institutions finance these two types of dwelling units as single-family homes. It is not until a building has five or more residential units that the financing is a commercial loan. For this reason alone, three-family, and four-family dwelling units should be included in the FBC,R. It is possible to purchase these dwellings with an FHA Loan. Realtors in Florida are also permitted to sell up to four units on a residential license. With proper zoning, three-family and four-family dwelling units can be designed and constructed to be compatible in single-family neighborhoods. Most can be constructed within a 35-foot height limit, common in many parts of the state. Normally, three-family, and four-family dwellings are two, two and one-half or three stories above the grade plane making them compatible with a single-family or two-family home. The footprint of either a three- or a four-family building could be designed and constructed in dimensions of forty feet by sixty feet.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The less restrictive application of a residential code souldlessen the burden on enforcement.

Impact to building and property owners relative to cost of compliance with code

Less expensive construction and sales cost.

Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The design of three- and four-family dwelligs are similar in nature to a duplex. As such the dgree of health, safety and elfare is enhanced by admitting these two dwelling types to the residential code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The modification is in line with industry standards for financing and sales.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No.
Does not degrade the effectiveness of the code
No.

F11782Text Modification

Exceptions:

1. *Automatic sprinkler systems* in one-, ~~and~~ two-, three-, and four-family *dwellings*.

Page: 1

Mod11782_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

46

F12110

Date Submitted	02/14/2025	**Section**	903	**Proponent**	James gregory
Chapter	9	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Exemption for I-2 occupancies because they are already connected to the fire department or approved supervisory station and there is no mystery where the possible fire is located.

Rationale

The IBC Commentary of this section states in part: "The alarm is not intended to be an evacuation alarm. The requirement is also not intended to be an indirect requirement for a fire alarm system. Unless a fire alarm system is required by some other code provision, only the exterior alarm device is required. However, when a fire alarm system is installed, the sprinkler system must also be interconnected with the fire alarm system so that when the sprinkler system actuates, it sounds the evacuation alarms required for the fire alarm system. The primary purpose of the exterior alarm is to notify people outside the building that the sprinkler system is in operation. Originally, it was to act as a supplemental alert so that passersby could notify the fire department of the condition. However, because the code now requires electronic supervision of sprinkler systems, that function is mostly moot. The exterior notification now primarily serves the function of alerting the arriving fire department of which building or sprinkler system is in operation before staging fire-fighting activities for the building." Because all I-2 occupancies are required to be connected and monitored by the Fire Department or approved supervising station, the purpose of this alarm to help identify a building in which the sprinkler system has been activated, is already satisfied. This additional alarm is not needed for this type of occupancy.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
There is no impact on local entity relative to enforcement.
Impact to building and property owners relative to cost of compliance with code
There is no impact to building and property owners.
Impact to industry relative to the cost of compliance with code
There is no impact to industry.
Impact to small business relative to the cost of compliance with code
There is no impact to small business relative to the cost of compliance.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

It has a reasonable and substantial connection to HSW of the public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Strengthens and improves the code by making it clearer and easier for the user to apply.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate against materials or products or methods.

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code.

F12110Text Modification

[F] 903.4.3Alarms. An *approved* audible and visual sprinkler water flow alarm device, located on the exterior of the building in an *approved* location, shall be connected to each *automatic sprinkler system*. Such sprinkler water flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a water flow switch is required by Section 903.4.1 to be electrically supervised, such sprinkler water flow alarm devices shall be powered by a fire alarm control unit or, where provided, a fire alarm system.Where a fire alarm system is provided installed, actuation of the *automatic sprinkler system* shall actuate the building fire alarm system.

Exception:

(1).*Automatic sprinkler systems* protecting one-and two-family dwellings.

(2) Automatic sprinkler systems protecting I-2 occupancies where the automatic sprinkler system and the building fire alarm system are required to be connected to and monitored by the Fire Department or an approved supervising station in accordance with NFPA 72.

Page: 1

Mod12110_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

47

F12240

Date Submitted	02/18/2025	**Section**	903.2.11.3.1	**Proponent**	Jennifer Hatfield
Chapter	9	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Townhouse definition proposal

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification removes contradicting language related to townhouses and townhouse units.

Rationale

The AGO issued this way back in 12/30/1997 based on SBC 1997 and carried over to FBC 2001. SBC 1997 Table 500 allowed Residential unsprinklered buildings up to 2 stories only. When the FBC 2004 was adopted, we shifted from SBC to the I-Codes, and the criteria for residential construction has changed. FBC 2004 added another volume for Residential. That AGO should have ended because Townhouses up to 3 stories are now permitted to be designed unsprinklered under the Residential. To continue having this outdated AGO provision in FBC-B Section 903.2.11.3.1 is conflicting and confusing.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None, editorial.
Impact to building and property owners relative to cost of compliance with code
None, editorial.
Impact to industry relative to the cost of compliance with code
None, editorial.
Impact to small business relative to the cost of compliance with code
None, editorial.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Removes outdated, conflicting and confusing code language.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Removes outdated, conflicting and confusing code language.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

1st Comment Period History

F12240-G1

Proponent Ashley Ong Submitted 3/10/2025 8:59:01 AM Attachments No

Comment:

I fully support this proposal. This Attorney General's Opinion is outdated - issued back in 1997. The scoping of FBC-B Sec 101.2 Exception 1 clearly considers townhouses as multiple "SINGLE-FAMILY" dwellings. Florida Statute Section 553.895(2) exempts "single-family" three stories from the provisions of automatic sprinkler system. To continue having this outdated AGO in Chapter 9 is conflicting. I saw multiple proposed 3-story townhouses in my jurisdiction that were scrubbed because of FBC-B Section 903.2.11.3.1.

1st Comment Period History

F12240-G2

Proponent Tommy Demopoulos Submitted 3/27/2025 12:51:10 PM Attachments No

Comment:

On behalf of the Florida Fire Marshals and Inspectors Association (FFMIA), we strongly oppose this proposal as it weakens the safety requirements for townhouses. This language provides guidance for code officials when enforcing the fire sprinkler requirements for these buildings. If removed, this can cause further confusion which can lead to lack of fire safety systems, such as fire sprinklers within the structures and diminishes life safety. The AGO issued provides clear direction on how these buildings shall be treated and classified which still remains true today.

F12240Text Modification

~~**903.2.11.3.1**~~

~~NFPA 101 as adopted by *Florida Fire Prevention Code*, as regarding the requirements for fire protection sprinklers, is applicable to all multiple-family residential buildings, whether designated as townhouses, condominiums, apartment houses, tenements, garden apartments or by any other name. The attorney general has determined that for the purpose of the fire protection sprinkler requirements in Section 553.895(2), *Florida Statutes*, townhouses that are three or more stories tall and consist of three or more units together are multiple-family dwellings. Therefore, these types of townhouses are not exempt from being considered for the requirements to provide fire protection sprinklers (even if there are any other definitions that define a townhouse as a single-family residence). When determining whether townhouses require fire protection sprinkler systems, the building official must consider in parallel: (a) the attorney general's opinion defining the statutory language for townhouses; (b) the building code requirements, including all life-safety chapters, that provide additional determining criteria, such as construction types, fire resistance, fire protection systems and egress; and (c) the NFPA 101 as adopted by *Florida Fire Prevention Code*, egress and protection determining criteria. The more restrictive criteria are then applied.~~

Page: 1

Mod12240_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

48

F11692

Date Submitted	01/09/2025	**Section**	1013.6.1.1	**Proponent**	Jonas Carsten
Chapter	10	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language Yes**

Related Modifications

Summary of Modification

Allow the internationally-standardized pictogram (symbol) for externally-illuminated exit signs. (It is already allowed for internally-illuminated exit signs by virtue of the IBC's reference to UL 924.)

Rationale

A pictogram (symbol) for exit signs is internationally standardized and has been adopted in many countries around the world over the past several decades, including other English-speaking countries such as Canada, Australia, New Zealand, and the UK. Using the internationally standardized pictogram makes exit signs easily understandable by anyone regardless of the language they speak. This would be particularly beneficial in buildings where there may be many visitors who don't speak English, such as a hotel, an airport terminal, or a building at a theme park. In addition, when the pictogram is used with a directional arrow, the arrow is much larger compared to the arrow on textual exit signs. This enhances safety by making it easier for occupants to find the exit, especially if it's a building that they're not familiar with.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None, the inspection procedures are identical for exit signs that feature the internationally-standardized pictogram and those that feature the word "EXIT".

Impact to building and property owners relative to cost of compliance with code

None, the manufacturing process is virtually identical for exit signs that feature the internationally-standardized pictogram and those that feature the word "EXIT".

Impact to industry relative to the cost of compliance with code

None, there are no new requirements.

Impact to small business relative to the cost of compliance with code

None, there are no new requirements.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This modification improves the safety of occupants in buildings that implement this change, particularly in occupancies where international visitors are present or many occupants are unfamiliar with the layout of the building.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

It ensures that the internationally-standardized pictogram is allowed for both types of exit signs. (Currently, it's allowed for internally-illuminated exit signs as explained in the attached support file, but not externally-illuminated ones.)

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

1. This change eliminates an inconsistency in the marking requirements for exit signs, thus ensuring the code does not discriminate against the different types of exit signs. 2. Exit signs that use the word "EXIT" will still be allowed, even in new buildings.

Does not degrade the effectiveness of the code

This modification does not degrade the effectiveness of the code in any way. It references NFPA 170, which is a standard that's already referenced elsewhere in the code (section 1025.2.6.1).

Alternate Language

1st Comment Period History

F11692-A1

Proponent Jonas Carsten **Submitted** 4/14/2025 11:43:46 AM **Attachments** Yes

Rationale:

This modification adds minimum heights for externally illuminated pictogram-based exit signs. The specified heights are consistent with what UL 924 (referenced by 1013.5) requires for internally illuminated pictogram-based exit signs (see attached support file). It also makes the text a bit more clear and is consistent with a proposed amendment I submitted for the Florida Fire Prevention Code (P2-02).

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Mostly same as before, but with more clarity on the required size for externally illuminated pictogram-based exit signs. (This is more consistent with what is required for externally illuminated text-based exit signs and all internally illuminated exit signs.)

Impact to building and property owners relative to cost of compliance with code

Same as before.

Impact to industry relative to the cost of compliance with code

Same as before.

Impact to small business relative to the cost of compliance with code

None, there are no new requirements.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Same as before but adds size requirements to ensure the exit sign can be readily seen.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the original proposal by adding originally missing size requirements which provides clarity for the code official for the building owner. See original proposal for advantages of pictogram-based exit signs.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

As before, text-based exit signs will still be allowed.

Does not degrade the effectiveness of the code

Same as before, and makes the code more effective compared to the original proposal by specifying size requirements.

F11692-A1Text Modification

1013.6.1.1 Pictogram option.

In lieu of or in addition to the word "EXIT", exit signs may contain the pictogram for an emergency exit (and, where applicable, directional arrows) as specified in NFPA 170. The green background shall be not less than 6 inches (150 mm) high and the doorway silhouette shall be not less than 5.4 inches (135 mm) high. If a directional arrow is provided as part of such an exit sign, it shall be not less than 3.8 inches (95.6 mm) high.

Page: 1

Mod11692_A1_TextOfModification.pdf

F11692Text Modification

Chapter 10: Add a new subsection:

1013.6.1.1 Internationally-standardized pictogram option.

In lieu of or in addition to the word "EXIT", exit signs may contain the pictogram for an emergency exit (and, where applicable, directional arrows) as specified in NFPA 170.

Page: 1

Mod11692_TextOfModification.pdf

F11692-A1Rationale

Comment for FBC Modification F11692

For reference, here is what UL 924 requires for internally illuminated pictogram-based signs. These minimum heights are consistent with what this FBC comment specifies for externally illuminated pictogram-based signs.

Figure 42.2

Minimum dimensions for specific elements of the running man

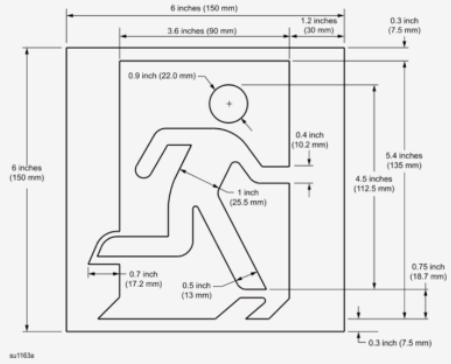
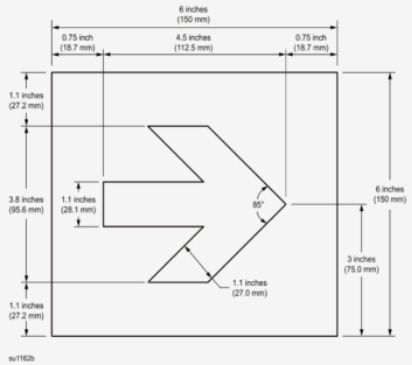


Figure 42.3

Minimum dimensions for specific elements of the arrow



Page: 1

Mod_11692_A1_Rationale_Exit Sign Pictogram - FBC Comment.pdf

F11692Rationale

Example of what the pictogram looks like (with a directional arrow):



F11692Requirements

Support File for FBC Exit Sign Modification

Answer to how the modification meets the requirement "Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction (553.73(9)(a)3,F.S.)"

The IBC's current wording is confusing as to what markings are required on exit signs, of which there are two types:
1. For internally-illuminated exit signs (which are the most common type), the IBC only requires compliance with UL 924, which was revised several years ago to allow the internationally-standardized pictogram as stated in its section 42.
2. For externally-illuminated exit signs, IBC section 1013.6.1 requires the word "EXIT" as the only option. Due to unclear wording ("Every exit sign..."), some building officials have cited this section as also applying to internally-illuminated exit signs. In addition, the IBC commentary contained an error that said that UL 924 required the word "EXIT" as the only option. I inquired to the ICC and was advised that the forthcoming 2024 version of the IBC commentary will correct this error.

Even with the commentary issue resolved, it does not make sense to have different marking requirements for the two types of exit signs.

This FBC modification will eliminate the confusion and allow the internationally-standardized pictogram for both types of exit signs.

The internationally-standardized pictogram provides an equivalent or better level of safety than the word "EXIT", particularly in occupancies where international visitors are present.

The large directional arrow that's used with the internationally-standardized pictogram provides a better level of safety than the small directional arrow that's used with the word "EXIT", particularly in occupancies where many occupants are unfamiliar with the layout of the building.

Page: 1

Mod_11692_Requirements_Exit Sign Pictogram - Additional Info FBC.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

49

F11709

Date Submitted	01/03/2025	**Section**	1004.5	**Proponent**	Greg Johnson
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

F11023

Summary of Modification

Adds an occupant load factor for Information Technology Equipment Facilities (ITEFs) (defined in F11023) to Table 1004.5. The value proposed - 500 gross - has been accepted in IBC change E9-24 which is on the consent agenda for the 2027 IBC.

Rationale

The FL Building Code needs an occupant load factor (OLF) for information technology equipment facilities (data centers). This value has been accepted for the 2027 IBC and is on the consent agenda (E9-24). ITEFs are essentially unoccupied except when equipment is being serviced. The proposed value aligns with the OLF for warehouses even though ITEFs have much lower occupancy, making the proposal very conservative. Note: For this change I represent Codes & Standards International & Vertiv, not the American Wood council.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Makes plan review easier by providing an occupant load factor for data centers.
Impact to building and property owners relative to cost of compliance with code
Minimizes the potential of inappropriate occupant load factors for data centers being required.
Impact to industry relative to the cost of compliance with code
Minimizes the cost of unneeded exit components (signs, doors, hardware, etc) and plumbing facilities.
Impact to small business relative to the cost of compliance with code
Minimizes costs.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
This provides criteria for egress system design.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by providing needed design criteria.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material impacts.

Does not degrade the effectiveness of the code

Improves the effectiveness of the code.

F11709Text Modification

TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR
Information technology equipment facilities	500 gross

Page: 1

Mod11709_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

50

F11907

Date Submitted	02/04/2025	**Section**	1010.2.9	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

This proposal removes the option to have sensor release electrical locking systems on doors also required to have panic hardware or fire exit hardware.

Rationale

The current provisions in this section identify which doors are required to have panic hardware or fire exit hardware. Further, Exception 1 identifies a subset of the doors within the scope of the charging language – doors which are required to have panic hardware or fire exit hardware – to be permitted to be equipped with door hardware release electrical locking systems (Section 1010.2.11) or sensor release electrical locking systems (Section 1010.2.12). This proposal removes the option to have sensor release electrical locking systems on doors also required to have panic hardware or fire exit hardware. Why? A door with panic hardware or fire exit hardware and also with a sensor release electrical locking system may require two releasing motions if the sensor release electrical locking system fails to unlock the electrical lock (i.e. mag lock). In this situation, the occupant would need to push the manual unlocking device (i.e. the required electrical pushbutton mounted on the wall) which removes power to the electrical lock (the mag lock), and then the occupant would need to operate the panic hardware or fire exit hardware to unlatch the door for egress.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
No additional costs identified.

Impact to building and property owners relative to cost of compliance with code
No mandatory cost increase or decrease. This proposal removes a not-required “shall be permitted” potential use of an ?electrical locking system. ?

Impact to industry relative to the cost of compliance with code
No additional costs identified.

Impact to small business relative to the cost of compliance with code
No additional costs identified.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Removes the option to use a sensor release electrical locking system on a door required to have panic hardware.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

F11907Text Modification

1010.2.9 Panic and fire exit hardware.

Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than panic hardware or fire exit hardware.

Exceptions:

1. A main exit of a Group A occupancy shall be permitted to be locking in accordance with Section 1010.2.4, Item 3.
2. Doors provided with panic hardware or fire exit hardware serving a Group A or E occupancy shall be permitted to be electronically locked in accordance with Section 1010.2.11~~ or 1010.2.12~~.
3. Outdoor gates from residential and commercial swimming pools or swimming pool decks, except where the pool deck serves as a portion of the means of egress of a building or has an occupant load of 300 or greater.
4. Courtrooms shall be permitted to be locked in accordance with Section 1010.2.13, Exception 2.
5. Exit access doors serving occupied exterior areas shall be permitted to be locked in accordance with Section 1010.2.4, Item 8.

Page: 1

Mod11907_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

51

F11909

Date Submitted	02/04/2025	**Section**	1010.1.1	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

This proposal, based on IBC proposal E45-24 for the 2027 IBC, separates door size provisions into min. width requirements and min. height requirements. Current requirements are retained but relocated. Also, new provisions for opposite-swinging doors are in section 1010.1.1.1.3.

Rationale

This proposal is based on ICC IBC proposal E45-24 approved as submitted for the 2027 IBC. This proposal editorially separates door size provisions into minimum width requirements (and related exceptions) from minimum height requirements (and related exceptions). All current requirements are retained, but many are relocated. In addition, in several locations phrasing was revised from “minimum clear opening width of” to “clear opening width of not less than” for editorial consistency within the code. And, a few other editorial adjustments were made with the text. Also, this proposal adds provisions for where a pair of opposite-swinging doors are in the means of egress in proposed new section 1010.1.1.1.3. Where the occupant load is such that doors are required to swing in the direction of egress travel, the code currently does not make it clear that each door which is required to swing in the direction of egress travel (of the pair of opposite-swinging doors) is required to meet the required minimum clear opening width. This new section (1010.1.1.1.3) clearly expresses what we believe is the intent of the code, but this may be considered a technical revision. If what’s proposed in 1010.1.1.1.3 is the intent of the code, there would be no increase in the cost of construction. On the other hand, in situations where doors are required to swing in the direction of egress travel, if the intent of the code is to allow the door which swings against egress travel to be included in measuring the clear width provided by the pair of opposite-swinging doors, then this proposed new section may increase the cost of construction. But, we don’t believe the latter situation reflects the intent of the code. Proposal is based on FBC-B 2023 revised per F10600. Proposal includes revisions of E45-24 tentatively approved for the 2027 IBC further revised for incorporation into the FBC-B.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

There should be no increase or decrease in the cost of construction. The proposed new section 1010.1.1.1.3 is consistent with the intent of the code. The other proposed revisions are intended to be editorial to improve the

readability of the code.

Impact to building and property owners relative to cost of compliance with code

There should be no increase or decrease in the cost of construction. The proposed new section 1010.1.1.1.3 is consistent with the intent of the code. The other proposed revisions are intended to be editorial to improve the readability of the code.

Impact to industry relative to the cost of compliance with code

There should be no increase or decrease in the cost of construction.

Impact to small business relative to the cost of compliance with code

There should be no increase or decrease in the cost of construction.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The proposed new section 1010.1.1.1.3 is consistent with the intent of the code. The other proposed revisions are intended to be editorial to improve the readability of the code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The proposed new section 1010.1.1.1.3 is consistent with the intent of the code. The other proposed revisions are intended to be editorial to improve the readability of the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

F11909Text Modification

1010.1.1 Size of doors.

Doors in the means of egress shall comply with the minimum clear opening width and minimum height requirements of Sections 1010.1.1.1 and 1010.1.1.2.

Exception:

Buildings that are 400 square feet (37 m^2) or less and that are intended for use in conjunction with one- and two-family residences are not subject to the door height and width requirements of this code.

-

1010.1.1.1 ~~Size of doors~~ Minimum width.

The required capacity of each door opening shall be sufficient for the occupant load thereof and shall provide a ~~minimum~~ clear opening width of not less than 32 inches (813 mm). ~~The clear opening width of doorways with swinging doors shall be measured between the face of the door and the frame stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 32 inches (813 mm).~~ In Group I-2, doors serving as means of egress doors where used for the movement of beds shall provide a ~~minimum~~ clear opening width of not less than $41^1/_2$ inches (1054 mm). ~~The minimum clear height of door openings shall be not less than 80 inches (2032 mm).~~

Exceptions:

1. In Group R-2 and R-3 dwelling and sleeping units that are not required to be an Accessible unit, the minimum clear opening width shall not apply to door openings that are not part of the required means of egress.
2. In Group I-3, door openings to resident sleeping units that are not required to be an Accessible unit shall have a ~~minimum~~ clear opening width of not less than 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m^2) in area shall not be limited by the minimum clear opening width.
4. ~~Door openings within a dwelling unit or sleeping unit shall have a minimum clear opening height of 78 inches (1981 mm).~~
5. ~~In dwelling and sleeping units that are not required to be Accessible units, exterior door openings other than the required exit door shall have a minimum clear opening height of 76 inches (1930 mm).~~
6. In Group I-1, R-2, R-3 and R-4 occupancies, in dwelling and sleeping units that are not required to be Accessible units, the minimum clear opening widths shall not apply to interior egress doors.
7. Door openings required to be accessible intended for user passage shall have a ~~minimum~~ clear opening width of not less than 31.75 inches (806 mm).
8. ~~Buildings that are 400 square feet (37 m^2) or less and that are intended for use in conjunction with one- and two-family residences are not subject to the door height and width requirements of this code.~~
9. The minimum clear opening width shall not apply to the doors for nonaccessible toilet stalls.

1010.1.1.1.1 Clear opening width measurement.

The clear opening width of doorways with swinging doors shall be measured between the face of the door and the frame stop, with the door open 90 degrees (1.57 rad).

1010.1.1.1.2 Two door leaves.

Where a minimum clear opening width is required and a door opening includes two door leaves without a mullion, one leaf shall provide that required minimum clear opening width.

1010.1.1.1.3 Opposite-swinging doors.

Where a pair of opposite-swinging doors are in the means of egress, each door required to swing in the direction of egress travel shall provide the required minimum clear opening width.

1010.1.1.2 Minimum height.

The clear opening height of doors shall be not less than 80 inches (2032 mm).

Page: 1

Mod11909_TextOfModification.pdf

F11909Text Modification

Exceptions:

1. Door openings within a *dwelling unit* or *sleeping unit* shall have a clear opening height of not less than 78 inches (1981 mm).

2. In dwelling and sleeping units that are not required to be Accessible units, exterior door openings other than the required exit door shall have a minimum clear opening height of 76 inches (1930 mm).

1010.1.1.~~4~~3 Projections into clear opening.

There shall not be projections into the required clear opening width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

Exception: Door closers, overhead door stops, frame stops, power door operators, and electromagnetic door locks shall be permitted to project into the opening height not lower than 78 inches (1980 mm) minimum above the floor.

Page: 2

Mod11909_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

52

F11913

Date Submitted	02/04/2025	**Section**	1010.2.11	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

This proposal is primarily editorial revisions to the four “shall be permitted” electrical locking systems to improve grammar and clarify the requirements. And, in 1010.2.13.1, Item 4, the revisions in the last sentence of Item 4 are technical but intended to clarify the intent of the code.

Rationale

This proposal is primarily editorial to the four “shall be permitted” electrical locking systems to improve grammar and clarify requirements of each system. Many revisions are from this grammar perspective: “Electrical” means of or relating to electricity, such as an electrical system or an electrical fault. “Electric” is typically used when referring to devices which run on electricity, such as an electric lock. In 1010.2.13.1, Item 4, the revisions in the last sentence of Item 4 are intended to clarify the intent. The last sentence of Item 4 is typically interpreted to require the delay electronics to be rearmed after the delay as completed. This current language has explicit requirements for rearming the locking system once the delay has completed. But, this sentence doesn’t explicitly permit, or prohibit, rearming the delay electronics while the delay is underway. From a code perspective, if it’s not prohibited, it’s permitted. If this sentence is interpreted that the delay electronics are not prohibited from being rearmed while the delay is underway, then it could be further interpreted the rearming could be executed by other than manual means only. Rearming the delayed egress locking system by manual means only communicates the intent that an authorized person, typically an employee or staff person, is required to physically be at the door to investigate what triggered the activation of the delayed egress locking system and to ensure that it is safe to re-set the delay. Thus, with a person at the delayed egress door to rearm the locking system manually, and to ensure it’s safe to do so, there’s little, if any, difference if the delayed egress locking system is rearmed while the delay is underway, or rearmed after the delay has completed. This proposal, based on Commission approval of F10636, includes the revisions of Mod F10635 plus the revisions of ICC IBC proposal E60-24 tentatively approved as modified by comment 1 for the 2027 IBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Not expected to increase the cost of construction. This proposal is intended to improve the readability of the code while not changing the technical requirements of these non-mandatory electrical locking systems.

Impact to building and property owners relative to cost of compliance with code

Not expected to increase the cost of construction. This proposal is intended to improve the readability of the code while not changing the technical requirements of these non-mandatory electrical locking systems.

Impact to industry relative to the cost of compliance with code

Not expected to increase the cost of construction. This proposal is intended to improve the readability of the code while not changing the technical requirements of these non-mandatory electrical locking systems.

Impact to small business relative to the cost of compliance with code

Not expected to increase the cost of construction. This proposal is intended to improve the readability of the code while not changing the technical requirements of these non-mandatory electrical locking systems.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Easier to understand, comply, with, and enforce the requirements of the code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. Easier to understand, comply, with, and enforce the requirements of the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

F11913Text Modification

1010.2.11 Door hardware release of electrically locked egress doors.

Door hardware release of ~~electric~~ electrical locking systems shall be permitted on doors in the means of egress within any occupancy except in Group H where installed and operated in accordance with all of the following:

1. The door hardware that is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
2. The door hardware is capable of being operated with one hand and shall comply with Section 1010.2.1.
3. Operation of the door hardware directly interrupts the power to the electric lock and unlocks the door immediately.
4. Loss of power to the ~~electric~~ electrical locking system automatically unlocks the ~~door~~ electric lock.
5. Where panic or fire exit hardware is required by Section 1010.2.9, operation of the panic or fire exit hardware also releases the electric lock.
6. The electro-mechanical or electromagnetic locking device shall be listed in accordance with either UL 294 or UL 1034.

1010.2.12 Sensor release of electrically locked egress doors.

Sensor release ~~of electric~~ electrical locking systems shall be permitted on doors located in the means of egress with an occupancy in Group A, B, E, I-1, I-2, I-4, M, R-1 or R-2 where installed and operated in accordance with all of the following criteria:

1. The sensor shall be installed on the egress side, arranged to detect an occupant approaching the doors, and shall cause the ~~electric~~ electrical locking system to unlock the electric lock.
2. ~~The electric locks shall be arranged to unlock by a signal from or loss of power to the sensor.~~ Upon a signal from a sensor or loss of power to the sensor, the electrical locking system shall unlock the electric lock.
3. Loss of power to the electric lock or electrical locking system shall automatically unlock the electric lock.
4. The doors shall be arranged to unlock the electric lock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads “PUSH TO EXIT.” When operated, the manual unlocking device shall result in direct interruption of power to the electric lock—independent of other electronics—and the electric lock shall remain unlocked for not less than 30 seconds.
5. Activation of the building fire alarm system, where provided, shall automatically unlock the electric lock, and the electric lock shall remain unlocked until the fire alarm system has been reset.
6. Activation of the building automatic sprinkler system or fire detection system, where provided, shall automatically unlock the electric lock. The electric lock shall remain unlocked until the fire alarm system has been reset.
7. The electro-mechanical or electromagnetic locking device shall be listed in accordance with either UL 294 or UL 1034.

1010.2.13 Delayed egress.

Delayed egress electrical locking systems shall be permitted ~~to be installed~~ on doors in the means of egress serving Group B, F, I, M, R, S and U occupancies in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907.

Exceptions:

1. Delayed egress locking systems shall be permitted to be installed on doors serving Group E occupancies that have an occupant load of 10 or fewer and that are in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907.
2. In courtrooms in Group A-3 and B occupancies, delayed egress electrical locking systems shall be permitted to be installed on exit or exit access doors, other than the main exit or exit access door, in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

1010.2.13.1 Delayed egress locking system.

The delayed egress electrical locking system shall be installed and operated in accordance with all of the following:

1. The delay ~~electronics~~ of the delayed egress electrical locking system shall deactivate upon actuation of the automatic sprinkler system or automatic fire detection system, allowing immediate~~,~~ free egress.
2. The delay ~~electronics~~ of the delayed egress electrical locking system shall deactivate upon loss of power ~~controlling the lock~~ to the electrical locking system or electric lock ~~mechanism~~, allowing immediate free egress.

Page: 1

Mod11913_TextOfModification.pdf

F11913Text Modification

3. The delay of the delayed egress electrical locking system shall have the capability of being deactivated at the fire command center and other approved locations.
4. ~~An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when~~ When a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds, an irreversible process shall be initiated that allows such egress in not more than 15 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. ~~Once the delay electronics have been deactivated, rearming~~ Rearming the delay electronics shall be by manual means only.

   Exception: Where approved, a delay of not more than 30 seconds is permitted on a door with a delayed egress ~~door~~locking system.

5. The egress path from any point shall not pass through more than one delayed egress locking system.

   Exceptions:

   1. In Group I-1, Condition 2, Group I-2 or I-3 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems, provided that the combined delay does not exceed 30 seconds.
   2. In Group I-1, Condition 1, or I-4 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems, provided that the combined delay does not exceed 30 seconds and the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

5. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware:

   6.1. For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.

   6.2. For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.

   6.3. The sign shall comply with the visual character requirements in the Florida Building Code, Accessibility.

   Exception: Where approved, in Group I occupancies, the installation of a sign is not required where care recipients who because of clinical needs require restraint or containment as part of the function of the treatment area.

7. Emergency lighting shall be provided on the egress side of the door.
8. The electro-mechanical or electromagnetic locking device shall be listed in accordance with either UL 294 or UL 1034.

1010.2.14 Controlled egress doors in Groups I-1 and I-2.

~~Electric~~ Controlled egress electrical locking systems~~, including electro-mechanical locking systems and electromagnetic locking systems,~~ where egress is controlled by authorized personnel, shall be permitted ~~to be locked~~ on doors in the means of egress in Group I-1 or I-2 occupancies where the clinical needs of persons receiving care require their containment. Controlled egress doors shall be permitted in such occupancies where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors are installed and operate in accordance with all of the following:

1. The ~~door~~ door's electrical locks shall unlock on actuation of the automatic sprinkler system or automatic smoke detection system, allowing immediate free egress.
2. The ~~door~~ door's electric locks shall unlock on loss of power ~~controlling the lock~~ to the electrical locking system or to the electrical lock ~~mechanism~~, allowing immediate free egress.
3. The ~~door~~ electrical locking system shall be installed to have the capability of ~~being unlocked~~ unlocking the electric locks by a switch located at the fire command center, a ~~nursing~~ nurses station or other approved location. The switch shall directly break power to the electric lock.
4. A building occupant shall not be required to pass through more than one door equipped with a controlled egress locking system before entering an exit.
5. The procedures for unlocking the doors shall be described and approved as part of the emergency planning and preparedness required by the Florida Fire Prevention Code.
6. All clinical staff shall have the keys, codes or other means necessary to operate the controlled egress electrical locking systems.
7. Emergency lighting shall be provided at the door.
8. The electro-mechanical or electromagnetic locking device shall be listed in accordance with either UL 294 or UL 1034.

Exceptions:

1. Items 1 through 4 shall not apply to doors to areas occupied by persons who, because of clinical needs, require restraint or containment as part of the function of a psychiatric or cognitive treatment area.

Page: 2

Mod11913_TextOfModification.pdf

F11913Text Modification

2. Items 1 through 4 shall not apply to doors to areas where a listed egress control system is utilized to reduce the risk of child abduction from nursery and obstetric areas of a Group I-2 hospital.

Mod11913_TextOfModification.pdf Page: 3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

53

F11914

Date Submitted	02/04/2025	**Section**	1010.2.9.2	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

This proposal is intended to be editorial and to more closely mesh with the requirements in NFPA 70 National Electrical Code.

Rationale

This proposal is intended to be editorial and to more closely mesh with the requirements in NFPA 70 National Electrical Code. The FBC-B, in Chapter 27, requires compliance with NFPA 70. The current text in Section 1010.2.9.2 closely follows requirements in NFPA 70 regarding panic hardware and fire exit hardware, but the revised text more closely follows the requirements in NFPA 70, making it easier to understand what's required to comply with NFPA 70. The charging language of 1010.2.9.2 is primarily the existing language in 1010.2.9.2 with editing to more closely mesh with terms used in NFPA 70. For example, electrical enclosures of wire fence-like material surrounding electrical equipment may not be considered an electrical equipment room – hence the proposed revisions to electrical equipment room, enclosure, or vault. The criteria in Items 1 through 6 are from current requirements in 1010.2.9.2 and augmented by requirements in these sections of NFPA 70: 1. 110.26(C)(3) – electrical equipment rooms, enclosures, or vaults for 1000 volts or less 2. 110.31(A)(4) – electrical equipment vaults for more than 1000 volts 3. 110.33(A)(3) – electrical equipment rooms or enclosures for more than 1000 volts 4. 450.43(C) – transformer vaults 5. 480.1 and 480.10(E) – batteries and energy storage systems 6. 646.19 – modular data centers Also, these six criteria were separated into items for easier correlation to NFPA 70 requirements. Proposed new section 1010.2.9.2.1 includes the existing requirements that doors are to swing in the direction of egress, and are to be equipped with panic or fire exit hardware – except the latter requirement was considered as not necessary for Group R-3 one- and two-family dwellings. This proposal includes revisions of ICC IBC proposal E59-24 for the 2027 IBC tentatively approved as modified by committee.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal should result in no cost increase or decrease. The FBC-B requires compliance to the NEC, and the proposed revisions are intended for ease of understanding this aspect of NEC requirements.

Impact to building and property owners relative to cost of compliance with code

This proposal should result in no cost increase or decrease. The FBC-B requires compliance to the NEC, and the proposed revisions are intended for ease of understanding this aspect of NEC requirements.

Impact to industry relative to the cost of compliance with code

This proposal should result in no cost increase or decrease. The FBC-B requires compliance to the NEC, and the proposed revisions are intended for ease of understanding this aspect of NEC requirements.

Impact to small business relative to the cost of compliance with code

This proposal should result in no cost increase or decrease. The FBC-B requires compliance to the NEC, and the proposed revisions are intended for ease of understanding this aspect of NEC requirements.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The FBC-B requires compliance to the NEC, and the proposed revisions are intended for ease of understanding this aspect of NEC requirements.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The FBC-B requires compliance to the NEC, and the proposed revisions are intended for ease of understanding this aspect of NEC requirements.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

F11914Text Modification

1010.2.9.2 Rooms with electrical equipment.

~~Exit or exit access doors serving transformer vaults, rooms designated for batteries or energy storage systems, or modular data centers shall be equipped with panic hardware or exit hardware. Rooms containing electrical equipment rated 800 amperes or more and that contain overcurrent devices, switching devices or control devices and where the exit or exit access door is less than 25 feet (7620 mm) from the equipment working space as required by NFPA 70, such doors shall not be provided with a latch or lock other than panic hardware or exit hardware. The doors shall swing in the direction of egress travel.~~

Where an electrical equipment room, enclosure, or vault meets one or more of the following criteria, exit doors or exit access doors shall comply with Section 1010.2.9.2.1.

1. Room, enclosure, or vault for electrical equipment of 1000 volts, nominal, or less and rated 800 amperes or more that contain overcurrent devices, switching devices, or control devices and where the exit door or exit access door is less than 25 feet (7620 mm) from the equipment working space as required by NFPA 70.
2. Vault for electrical equipment of over 1000 volts, nominal.
3. Room or enclosure for electrical equipment of over 1000 volts, nominal, and where the exit door or exit access door is less than 25 feet (7620 mm) from the equipment working space as required by NFPA 70.
4. Transformer vault.
5. Room, enclosure, or vault forbatteriesorenergystoragesystems having a capacity greater than 1 kWh (3.6MJ).
6. Modular data center.

1010.2.9.2.1 Electrical equipment room doors.

Exit doors and exit access doors of such electrical room, enclosure, or vault shall swing in the direction of egress travel, and, in other than Group R-3 one- and two-family dwellings, locks and latches on the doors shall be provided with panic hardware or fire exit hardware.

Page: 1

Mod11914_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

54

F11915

Date Submitted	02/05/2025	**Section**	1010.2.4	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

This proposal adds the Mercantile occupancy (M) to the first two rows of Table 1010.2.4 to specifically permit manual bolts, automatic flush bolts, or constant latching bolts on the inactive leaf of a pair of doors. This proposal also editorially revises this table and footnote.

Rationale

This proposal adds the Mercantile occupancy (M) to the first two rows of Table 1010.2.4 to specifically permit these hardware items on the inactive leaf of a pair of doors. A common application are the doors to automobile showrooms, where the inactive leaf opens wide enough to permit cars to be rolled into and out of the showroom These two rows in Table 1010.2.4 are where the inactive leaf is not needed for egress capacity. Also, footnote b is added to two cells in the right-hand column. In these applications where the doors are required to comply with Section 716, these doors are required by other parts of the IBC to be opening protectives, and required to be self-closing or automatic-closing, and to latch when closed. We overlooked this nuance when we proposed this table for the 2024 IBC and for the 2023 FBC-B. This proposal also editorially revises this table and footnote. Footnote b of Table 1010.2.4 currently is not quite accurate as some pairs of doors are designed such that both door leafs (the active leaf and the inactive leaf) close and latch without needing a coordinator to close the inactive leaf prior to the active leaf. Also, revising a couple cells in Table 1010.2.4 to mesh with the revisions in Footnote b. In Group I-2, patient care and sleeping room doors are, for all practical purposes, not required by the code to comply with Section 716 (i.e. to be fire rated doors). Section 407.3.1 specifically states that Group I-2 corridor doors are not required to be self-closing or automatic-closing except in the very limited situations and patient care and sleeping room doors are essentially not installed in these situations. Also, in Group I-2, patient care and sleeping room doors are not required to be self-closing or automatic-closing, and the footnote in the cell under Automatic flush bolts should not be there.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal does not increase or decrease the cost of construction. This proposal adds, for Mercantile occupancies, the option to use manual bolts, automatic flush bolts, or constant latching bolts on the inactive leaf

of a pair of doors.

Impact to building and property owners relative to cost of compliance with code

This proposal does not increase or decrease the cost of construction. This proposal adds, for Mercantile occupancies, the option to use manual bolts, automatic flush bolts, or constant latching bolts on the inactive leaf of a pair of doors.

Impact to industry relative to the cost of compliance with code

Should not increase or decrease the cost of compliance.

Impact to small business relative to the cost of compliance with code

Should not increase or decrease the cost of compliance.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposal adds, for Mercantile occupancies, the option to use manual bolts, automatic flush bolts, or constant latching bolts on the inactive leaf of a pair of doors. And, the proposal editorially corrects footnote b and editorially revises Table 1010.2.4.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposal adds, for Mercantile occupancies, the option to use manual bolts, automatic flush bolts, or constant latching bolts on the inactive leaf of a pair of doors. And, the proposal editorially corrects footnote b and editorially revises Table 1010.2.4.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

F11915Text Modification

TABLE 1010.2.4

MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS

APPLICATION WITH A PAIR OF DOORS WITH AN ACTIVE LEAF AND INACTIVE LEAF	THE PAIR OF DOORS ARE REQUIRED TO COMPLY WITH SECTION 716	PERMITTED USES OF MANUAL BOLTS, AUTOMATIC FLUSH BOLTS, AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS		
		Surface or Flush Mounted Manual Bolts	Automatic Flush Bolts	Constant Latching Bolts
Group B, F, M, or S occupancies with occupant load less than 50	No	P	P	P
	Yes	NP	~~NP~~P[b]	P[b]
Group B, F, M, or S occupancies where the building is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 and the inactive leaf is not needed to meet egress capacity requirements	No	P	P	P
	Yes	NP	~~NP~~P[b]	P[b]
Group I-2 patient care rooms where the inactive leaf is not needed to meet egress capacity requirements	No	NP	~~NP~~P[~~b~~]	P
	~~Yes~~	~~NP~~	~~NP~~[b]	~~P~~
Any occupancy where panic hardware is not required, egress doors are used in pairs and both leaves are required to meet egress capacity requirements	No	NP	P	NP
	Yes	NP	~~NP~~P[b]	NP
Storage or equipment rooms where the inactive leaf is not needed to meet egress capacity requirements	No	P[a]	P	P
	Yes	P[a]	P	P

1. P = Permitted; NP = Not Permitted.
2. a. Not permitted on corridor doors in Group I-2 healthcare occupancies where corridor doors are required to be positive latching.
3. b. Permitted only where both ~~doors~~ door leafs are self-closing or automatic-closing and both leafs are arranged to automatically latch in the closed position ~~are provided with a coordinator that causes the inactive leaf to be closed prior to the active leaf~~.

Page: 1

Mod11915_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

55

F11919

Date Submitted	02/05/2025	**Section**	1010.2.7	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Mod 11918 submitted for 403.5.3, and Mod F10607 approved by the Commission.

Summary of Modification

This proposal is editorial improvements of 1010.2.7 and is from IBC proposal E53-24 tentatively approved as modified by committee for the 2027 IBC.

Rationale

This proposal is editorial revisions from IBC proposal E53-24 tentatively approved as modified by committee for the 2027 IBC. In 1010.2.7, there's language that permits stairway doors, where they comply with specified conditions, to be locked preventing passage from the stairway into the building or structure. But, the language used in the code is less clear than the language used in the 1st sentence of this paragraph of this reason statement. Several edits reflect the language of the 1st sentence of this paragraph. In 1010.2.7, the terms "stairway doors" and "stairway exit doors" are used to describe the same doors. It appears that "stairway doors" may be the better term to use when the code is addressing doors to / from stairways where the doors are in the means of egress (if the stairway doors are not in the means of egress, the code provisions most likely would not apply). Also, these provisions regarding stairway doors should be applicable to doors in interior exit stairways and to doors in exterior exit stairways. The language of Exceptions 1 and 2 are edited to more accurately describe the intent and scope of the exceptions. In Exception 3, the word "simultaneously" is redundant with the requirements in Items 3.1 and 3.2, and not appropriate if applied to Item 3.3. Exceptions 4 and 5 are editorially revised to more clearly describe the intent of the code.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The editorial revisions are intended to be improvements to the existing language of the code which should make the code quicker and easier to understand and enforce.

Impact to building and property owners relative to cost of compliance with code

The proposal should not increase or decrease the cost of compliance. The editorial revisions are intended to be improvements to the existing language of the code.

Impact to industry relative to the cost of compliance with code

The proposal should not increase or decrease the cost of compliance. The editorial revisions are intended to be improvements to the existing language of the code.

Impact to small business relative to the cost of compliance with code

The proposal should not increase or decrease the cost of compliance. The editorial revisions are intended to be improvements to the existing language of the code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The editorial revisions are intended to be improvements to the existing language of the code which should make the code quicker and easier to understand and enforce.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The editorial revisions are intended to be improvements to the existing language of the code which should make the code quicker and easier to understand and enforce.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

F11919Text Modification

1010.2.7 Stairway doors operation.

~~Interior stairway~~ Stairway doors in the means of egress ~~doors~~ shall be openable from both sides without the use of a key or special knowledge or effort.

Exceptions:

1. Stairway discharge doors shall be openable from the egress side and shall ~~only be locked from the opposite side~~ be permitted to be locked to prevent passage into the stairway through the stairway discharge door.
2. ~~This section shall not apply to~~ Stairway doors arranged in accordance with Section 403.5.3 shall be permitted to be locked to prevent passage from the stairway into the building.
3. Stairway ~~exit~~ doors are permitted to be locked ~~from the side opposite the egress side,~~ to prevent passage from the stairway into the building provided they are openable from the egress side and capable of being unlocked ~~simultaneously~~ without unlatching when any of the following conditions occur:

   Shall be capable of being unlocked individually or simultaneously upon a signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.

   Shall unlock simultaneously upon activation of a fire alarm signal when a fire alarm system is present in the area served by the stairway.

   3.3 Shall unlock upon failure of the power supply to the electric lock or the locking system.

4. Stairway ~~exit~~ doors shall be openable from the egress side and shall only be locked ~~from the opposite side~~ to prevent passage from the stairway into the building in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single exit stairway where permitted in Section 1006.3.3.

5. Stairway ~~exit~~ doors shall be openable from the egress side and shall only be locked ~~from the opposite side~~ to prevent passage from the stairway into the building in Group R-2 occupancies where the only interior access to the dwelling unit is from a single exit stairway where permitted in Section 1006.3.3.

Page: 1

Mod11919_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

56

F11921

Date Submitted	02/06/2025	**Section**	1010.2.4	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

In Item 3, technical revisions are per F10603, and editorial revisions are from E53-24 tentatively approved as modified by committee for the 2027 IBC. The revisions in Item 5 are from E55-24 tentatively approved as submitted for the 2027 IBC.

Rationale

Prior to the 2017 FBC-B, the applicability of Item 3 was limited to the main exterior doors of a building for the listed occupancies. And, the sign required by this section stated: THIS DOOR TO REMAIN UNLOCKED WHEN THIS BUILDING IS OCCUPIED. However, for the 2017 FBC-B, item 3 was revised to be applicable to the main doors to a space for the same listed occupancies. And, the sign required by this section stated: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The intent of the change was to permit the provisions of Item 3 to be applicable to, for example, where the main doors to a restaurant open into a mall. Unfortunately, Item 3 is sometimes being interpreted as broadly as written: any doors that could be described as the main doors, to any space in the listed occupancies, regardless of the size or use of the space and regardless of how far into the bowels of the building, could be locked with a key operated lock preventing ingress and / or egress. This proposal is intended to bring the scope of the applicability of Item 3 to be more closely aligned to the stated intent: Item 3 would be applicable to the main exterior doors to the building, or the doors are the main doors to the tenant space. The editorial revisions in Item 3 are from E53-24 tentatively approved as modified by committee for 2027 IBC. The revisions in Item 5 are from E55-24 tentatively approved as submitted for the 2027 IBC, and explicitly requires what has been assumed to be applicable.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should have minimal to no effect on the impact of code enforcement.

Impact to building and property owners relative to cost of compliance with code

May increase the cost of construction if a key-operated lock on the egress side of main doors would not be permitted, and a higher cost lock is needed. May decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease slightly.

Impact to industry relative to the cost of compliance with code

May increase the cost of construction if a key-operated lock on the egress side of main doors would not be permitted, and a higher cost lock is needed. May decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease slightly.

Impact to small business relative to the cost of compliance with code

May increase the cost of construction if a key-operated lock on the egress side of main doors would not be permitted, and a higher cost lock is needed. May decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease slightly.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Removes the option to lock doors preventing egress through the main doors from spaces far to the interior of buildings.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, improves life safety by removing the option to lock doors preventing egress through the main doors from spaces far to the interior of buildings.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

F11921Text Modification

1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main door or doors are permitted to be equipped with key-operated locking devices ~~from the~~ which, when locked, prevent egress ~~side~~ provided:

    3.1 The doors are the main doors to the building, or the doors are the main doors to the tenant space.

    3.~~1~~2. The locking device is readily distinguishable as locked.

    3.~~2~~3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.

    3.~~3~~4. The use of the key-operated locking device is revocable by the building official for due cause.

Manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.

4. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain that require a second non-simultaneous releasing motion, provided such devices are openable from the inside without the use of a key or tool.

6. – 10. No revisions proposed

Page: 1

Mod11921_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

57

F11929

Date Submitted	02/06/2025	**Section**	1010.2.8	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

In educational occupancies, this proposal requires, primarily, egress doors from classrooms and other occupiable rooms to be lockable from the inside of the room. This proposal also requires exterior entry doors to be lockable from inside the buildings.

Rationale

In educational occupancies, this proposal requires, primarily, egress doors from classrooms and other occupiable rooms to be lockable from the inside of the room. New Item 1 of renumbered 1010.2.8.1 is for consistency with existing requirements. Section 453.27.8.1 of the FBC-B requires of classroom locksets: Each door shall be equipped with a lockset, which is readily opened from the side from which egress is to be made at all times. The 2nd exception of Chapter 5 Existing Facilities, section (8)(c)1. of Florida 2014 State Requirements for Educational Facilities (SREF) permits the use of classroom security function door hardware which allows the outside lever to be locked with a key from either inside or outside while keeping the inside lever unlocked for unrestricted egress. This proposal also requires exterior entry doors to be lockable from inside the buildings. These proposed requirements are consistent with current practices of design and construction of new schools, and are consistent with recommendations by a wide range of school safety and security advocates, including the U.S. Dept. of Homeland Security (DHS), and the Partner Alliance for Safer Schools (PASS). This proposal is based on FBC-B 2023 with revisions of E57-24 tentatively approved as submitted for the 2027 IBC, and further revised to address existing Florida requirements. The support file provided with this proposal includes additional rationale and references.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Minimal impact on enforcement of the code, would need to continue to verify doors cannot be locked preventing egress while also verifying the doors can be locked from the interior to prevent intruders from entering the building, space, or room.

Impact to building and property owners relative to cost of compliance with code

The proposed requirements may increase the cost of construction. The new requirements are applicable to locks on interior and exterior doors. However, they are consistent with current practices of design of new schools.

Thus, the actual increase in cost is nil.

Impact to industry relative to the cost of compliance with code

The proposed requirements may increase the cost of construction. The new requirements are applicable to locks on ?interior and exterior doors. However, they are consistent with current practices of design of new schools. Thus, the actual increase in cost is nil.

Impact to small business relative to the cost of compliance with code

The proposed requirements may increase the cost of construction. The new requirements are applicable to locks on interior and exterior doors. However, they are consistent with current practices of design of new schools. Thus, the actual increase in cost is nil.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes, requires exterior and interior doors of schools to be lockable to keep intruders from entering the building, space, or room.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, may be of significant importance for occupant safety and security in the event of violent situations.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

F11929Text Modification

1010.2.8 Locking arrangements in educational occupancies. In Group E occupancies, Group B colleges and universities, Group A occupancies accessory to Group B colleges and universities, and Group I-4 occupancies, egress doors and exterior entry doors shall comply with Sections 1010.2.8.1 through 1010.2.8.3.

~~1010.2.8~~1010.2.8.1 ~~Locking arrangements~~ Egress doors in educational occupancies.

~~In Group E occupancies, Group B educational occupancies and Group I-4 occupancies, egress~~ Egress doors from classrooms, offices and other occupied rooms shall be provided with locking arrangements designed to keep intruders from entering the room and shall comply with all of the following ~~conditions~~:

1. The locking arrangements shall be in accordance with Section 453.27.8.1 and in accordance with the Florida 2014 State Requirements for Educational Facilities (SREF) Chapter 5, (8)(c)1, 2nd exception.
2. The doors shall be capable of being locked from inside the room.
3. The doors shall be capable of being unlocked from outside the room with a key or other approved means.
4. The doors shall be openable from within the room in accordance with Section 1010.2.
5. Modifications shall not be made to listed panic hardware, fire door hardware or door closer.
6. Modifications to fire door assemblies shall be in accordance with NFPA 80.

~~Remote locking or unlocking of doors from an approved location shall be permitted in addition to the unlocking operation in Item 1.~~

1010.2.8.2 Exterior entry doors. Exterior doors which provide entry into the building shall be provided with locking arrangements designed to keep intruders from entering the building, and shall comply with all of the following:

1. The doors shall be lockable from the egress side of the door.
2. A minimum of one door on each building face shall be capable of being unlocked from outside the building with a key or other *approved* means.
3. Each egress door shall be openable from within the building in accordance with Section 1010.2.

1010.2.8.3 Remote locking and unlocking. Remote locking and unlocking of doors from an approved location shall be permitted.

Page: 1

Mod11929_TextOfModification.pdf

F11929Text Modification

Mod_11929_Text_2026 FBC-B Section 1010.2.8 Locking in Ed Occup w E57-24 20250206 FBC Mod 11929.pdf

2026 FBC-B, Section 1010.2.8 Locking Arrangements in Educational Occupancies with E57-24
FBC Mod 11929

Proposal is based on FBC-B 2023 with revisions of E57-24 tentatively approved as submitted for the 2027 IBC, and further revised to address existing Florida requirements.

~~2023~~ 2026 Florida Building Code

1010.2.8 Locking arrangements in educational occupancies. In Group E occupancies, Group B colleges and universities, Group A occupancies accessory to Group B colleges and universities, and Group I-4 occupancies, egress doors and exterior entry doors shall comply with Sections 1010.2.8.1 through 1010.2.8.3.

~~1010.2.8~~1010.2.8.1 ~~Locking arrangements~~ Egress doors in educational occupancies.
~~In Group E occupancies, Group B educational occupancies and Group I-4 occupancies, egress~~ Egress doors from classrooms, offices and other occupied rooms shall be provided with locking arrangements designed to keep intruders from entering the room and shall comply with all of the following ~~conditions~~:

1. The locking arrangements shall be in accordance with Section 453.27.8.1 and in accordance with the Florida 2014 State Requirements for Educational Facilities (SREF) Chapter 5, (8)(c)1. 2nd exception.
2. The doors shall be capable of being locked from inside the room.
3. The doors shall be capable of being unlocked from outside the room with a key or other approved means.
4. The doors shall be openable from within the room in accordance with Section 1010.2.
5. Modifications shall not be made to listed panic hardware, fire door hardware or door closer.
6. Modifications to fire door assemblies shall be in accordance with NFPA 80.

~~Remote locking or unlocking of doors from an approved location shall be permitted in addition to the unlocking operation in Item 1.~~

1010.2.8.2 Exterior entry doors. Exterior doors which provide entry into the building shall be provided with locking arrangements designed to keep intruders from entering the building, and shall comply with all of the following:

1. The doors shall be lockable from the egress side of the door.
2. A minimum of one door on each building face shall be capable of being unlocked from outside the building with a key or other *approved* means.
3. Each egress door shall be openable from within the building in accordance with Section 1010.2.

1010.2.8.3 Remote locking and unlocking. Remote locking and unlocking of doors from an approved location shall be permitted.

Reason

In educational occupancies, this proposal requires, primarily, egress doors from classrooms and other occupiable rooms to be lockable from the inside of the room. New Item 1 of renumbered 1010.2.8.1 is for consistency with existing requirements. Section 453.27.8.1 of the FBC-B requires of classroom locksets: Each door shall be equipped with a lockset, which is readily opened from the side from which egress is to be made at all times. The 2nd exception of Chapter 5 Existing Facilities, section (8)(c)1. of Florida 2014 State Requirements for Educational Facilities (SREF) permits the use of classroom security function door hardware which allows the outside lever to be locked with a key from either inside or outside while keeping the inside lever unlocked for unrestricted egress.

This proposal also requires exterior entry doors to be lockable from inside the buildings.

F11929Text Modification

Mod_11929_Text_2026 FBC-B Section 1010.2.8 Locking in Ed Occup w E57-24 20250206 FBC Mod 11929.pdf

These proposed requirements are consistent with current practices of design and construction of new schools, and are consistent with recommendations by a wide range of school safety and security advocates, including the U.S. Dept. of Homeland Security (DHS), and the Partner Alliance for Safer Schools (PASS).

Several poignant examples:

The Sandy Hook Advisory Commission's Final Report, dated March 6, 2015, of the investigation of the tragedy at Sandy Hook Elementary School in Newtown, Connecticut, Dec. 14, 2012, recommends:

1. Requiring classroom and other safe-haven areas to have doors that can be locked from the inside.
2. All exterior doors in K-12 schools be equipped with hardware capable of implementing a full perimeter lockdown.

The May 24, 2022 incident at Robb Elementary, Uvalde, Texas, confirmed the importance of the ability to lock exterior doors from the interior of the building. Reportedly, the door the gunman used to enter the Robb Elementary building was lockable only from the outside of the building (same with other exterior doors), and from the inside it was not possible to determine if the exterior door was locked to prevent entry. These exterior doors were required to be kept locked and closed. The interior classroom doors in Robb Elementary reportedly could only be locked from outside the classroom, and teachers were required, by policy, to keep the classroom doors locked and closed. But, there was no way to confirm whether the exterior handle was locked from the inside of the classroom. For convenience, reportedly teachers would use rocks to prop open exterior doors, and used door stops, wedges, and magnets to prevent interior door locks from latching.

Despite billions of dollars invested in hardening schools nationally, 1 in 4 U.S. public schools lack classroom doors that can be locked from the inside, according to a survey conducted two years ago by the National Center on Education Statistics, a federal research office.

Doors that can be quickly and easily locked can mean the difference between life and death when a shooter is on school grounds. Safety commissions, teachers, fire safety groups, and both gun rights and gun control groups have all advocated for doors which can be locked from the inside since the Columbine High School, Columbine, Colorado, shooting in 1999.

Sources:
https://passk12.org/
https://www.cisa.gov/topics/physical-security/school-safety
https://portal.ct.gov/-/media/Malloy-Archive/Sandy-Hook-Advisory-Commission/SHAC_Final_Report_3-6-2015.pdf
https://www.house.texas.gov/pdfs/committees/reports/interim/87interim/Robb-Elementary-Investigative-Committee-Report-update.pdf
https://apnews.com/article/politics-shootings-texas-school-safety-2c97d26b56e8b081aa725ee2235e4a3b
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https://www.defensivestrategies.org/downloads/NRA-National-School-Shield-Report.pdf
https://everytownresearch.org/report/how-to-stop-shootings-and-gun-violence-in-schools/

Cost

The proposed requirements may increase the cost of construction.
From an FBC-B perspective, the proposal includes new requirements that would be applicable to locks on interior doors, and applicable to locks on exterior doors. However, from a practical perspective, the

proposed requirements for locks on interior and exterior doors are consistent with current practices of design and construction of new schools. Thus, from a cost perspective, the actual increase in cost is nil.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

58

F11996

Date Submitted	02/15/2025	**Section**	1030.31	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Residential, 318.2 and 319.3

Summary of Modification

On behalf of the Fenestration & Glazing Industry Alliance (FGIA), this proposal intends to update section 1030.31 of the Building Code to align with other existing provisions in the Building Code as it relates to types of doors. A corresponding Residential proposal has also been submitted.

Rationale

The 2021 IBC updated sections 1010.1.2 and 1010.1.2.1 to add balanced doors to the other common types of swinging doors allowed and used in the means of egress. Pivoted doors were already allowed and listed in the IBC prior to 2021, along with swinging door types. That previous proposal, E42-18, also revised the title of the section to denote it is "egress door types". Those IBC changes were reflected in the 2023 Florida Building Code, Building. The 2021 IBC proposal missed doing the same addition of doors in the emergency escape and rescue doors section.This proposal intends to address that by adding "pivoted door and balanced door" to the list of door types that can be an EERO type door; aligning the Chapter 10 door provisions. A corresponding Residential proposal has been submitted to the ICC to ensure sections R318.2 and R319.3 coordinate with the changes made in the IBC, to make it clear all common types of swinging doors are allowed and used in the means of egress. That same corresponding proposal has been submitted to address this in what will be the 9th edition of the Florida Residential Code as well. The reasoning statement for the previous ICC proposal, E42-18 included the fact it appears the intent was always that balanced doors were allowed as a means of egress due to the fact section 1010.1.10.2 of the 2018 IBC provided the following: "2018 IBC 1010.1.10.2 Balanced doors. If balanced doors are used and panic hardware is required, the panic hardware shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side." The intent of all these proposals is to have terminology alignment that makes clear side-hinged, pivoted and balanced doors are all types of swinging doors.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Provides consistent terms, which will lessen any possible confusion and time delay that in turn could lessen costs.

Impact to building and property owners relative to cost of compliance with code
No impact to cost.
Impact to industry relative to the cost of compliance with code
No impact to cost.
Impact to small business relative to the cost of compliance with code
No impact to cost.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
It does not.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, by providing for consistency in terminology.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
It does not.
Does not degrade the effectiveness of the code
It does not.

F11996Text Modification

1030.3.1 Emergency escape and rescue doors.

Where a door is provided as the required emergency escape and rescue opening, it shall be a swinging door, pivoted door, balanced door, or a sliding door.

Page: 1

Mod11996_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

59

F12153

Date Submitted	02/14/2025	**Section**	1010	**Proponent**	Amanda Hickman
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

12145-12150, 12152

Summary of Modification

Updates code regarding A2L products.

Rationale

A2L refrigerants are low burning velocity, mildly flammable gases. As the air conditioning and refrigeration industries transition to lower global warming potential refrigerants, applications where A1 refrigerants are currently being used will begin using A2Ls. This code change recognizes that even though these refrigerants are categorized as flammable gases, their low burning velocities give them characteristics more similar to A1 refrigerants than flammable gases such as hydrocarbons. As such, this code change allows the warehousing, storage and use of A2L refrigerants without the need to classify occupancies as Group H. This State Code Amendment Proposal is consistent with updates that have been approved in the 2024 International Building and Fire Codes and the 2024 edition of NFPA 1.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Will assist code enforcement regarding A2L products.

Impact to building and property owners relative to cost of compliance with code

These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Impact to industry relative to the cost of compliance with code

These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Impact to small business relative to the cost of compliance with code

These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Updates code to ensure air conditioning products are permitted in the state of Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Updates code to ensure air conditioning products are permitted in the state of Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No. Only permits the use of A2L products.

Does not degrade the effectiveness of the code

No. Only permits the use of A2L products.

F12153Text Modification

Chapter 10: MEANS OF EGRESS

1010.2.9 Panic and fire exit hardware. ~~Swinging~~Doors serving a Group H occupancy and ~~swinging~~ doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock ~~other than~~ unless it is panic hardware or fire exit hardware.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide that contain overcurrent devices, switching devices or control devices with exit or exit access doors shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

Refrigeration machinery rooms larger than 1,000 square feet (93 m2) shall have not less than two exit or exit access doorways that swing in the direction of egress travel and shall be equipped with *panic hardware* or *fire exit hardware*.

1010.2.9.1 Refrigeration machinery rooms. ~~Refrigeration~~Machinery rooms larger than 1,000 square feet (93 m ^{2}) shall have not less than two ~~exit~~ *exits* or exit access doorways ~~that swing in the direction of egress travel and shall be equipped with panic hardware or fire exit hardware~~. Where two *exit access doorways* are required, one such doorway is permitted to be served by a fixed ladder or an *alternating tread device*. *Exit access doorways* shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway*. An increase in *exit access* travel distance is permitted in accordance with Section 1016.1.

~~Doors~~ *Exit* and *exit access doorways* shall swing in the direction of egress travel and shall be equipped with *panic hardware*, regardless of the *occupant load* served.

~~Doors~~ Exit and *exit access doorways* shall be tight fitting and *self-closing*.

Page: 1

Mod12153_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

60

F12185

Date Submitted	02/16/2025	**Section**	1024.3	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Section 1027.5 proposed change

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification clarifies the intent of the code that only when the exit passageway is an extension from (not to) an interior exit stairway or ramp that is 2-hr protected then it must also be protected with the same fire rating.

Rationale

It is clearly the intent of the Code that an exit passageway, whether required for travel distance or some other reason, may be of minimum one-hour fire-resistance rating, regardless of the type of construction or number of stories in a building. Exit passageway is defined in Section 202 as a protected path of egress travel in a horizontal direction to an exit or exit discharge. There are many times that this is misinterpreted that if you are located in a Type I building, or several stories up in a structure, that the exit passageway must be two-hour rated. This proposal clarifies the intent of the code that only when the exit passageway is an extension from (not to) an interior exit stairway or ramp that is 2-hr protected then it must also be protected with the same fire rating.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
No cost impact as the modification is editorial.
Impact to building and property owners relative to cost of compliance with code
No cost impact as the modification is editorial.
Impact to industry relative to the cost of compliance with code
No cost impact as the modification is editorial.
Impact to small business relative to the cost of compliance with code
No cost impact as the modification is editorial.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Provides clarity to ensure proper fire-resistance rating of an exit passageway.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, as it provides needed clarity.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12185Text Modification

1024.3 Construction.

Exit passageway enclosures shall have walls, floors and ceilings of not less than a 1-hour *fire-resistance rating*. The fire-resistance rating of an exit passageway, where extending from an interior exit stairway or ramp, shall not be less than that required for the~~, and not less than that required for any connecting~~ interior exit stairway or ramp. Exit passageways shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.

Page: 1

Mod12185_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

61

F12186

Date Submitted	02/16/2025	**Section**	1027.5	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Section 1024.3 proposed change

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification clarifies how Section 1027.5 is measured and removes contradictions between the minimum distance and fire separation distance.

Rationale

This code change is intended to clarify how 1027.5 is measured and to remove the contradictions between the minimum distance per 1027.5 and fire separation distance, as defined in Section 202. The term “fire separation distance” has a specific definition and application within the FBC and is not the correct term to use for 1027.5. Removing the term "fire separation distance" removes the contradiction between the fire separation distance definition and the minimum distance required per 1027.5. Item 1 was clarified to permit the minimum separation distance to be measured to the centerline of the street, alley, or public way. The reason a minimum 10 ft separation distance is required to an adjacent lot line is in case a future building is built right on an adjacent lot. Where the lot line faces a street, alley, or public way, the hazard of a building being built right on the adjacent property line is omitted and the separation distance should be measured to the centerline of the street, alley, or public way. Items 2 and 3 were revised to clarify the difference between the separation distance of 1027.5 and fire separation distance. The separation distance of 1027.5 specifically does not reference an imaginary lot line for separate buildings on the same lot. Item 3 addresses separate buildings on the same lot and states that the distance shall be measured perpendicular from the exterior exit stairway to the adjacent building and not an imaginary lot line. An exception was added to clarify that where separate buildings on the same lot are protected in accordance with FBC 705 based on fire separation distance the minimum 10 ft separation distance is not required.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No cost impact as the modification is editorial.

Impact to building and property owners relative to cost of compliance with code

No cost impact as the modification is editorial.

Impact to industry relative to the cost of compliance with code

No cost impact as the modification is editorial.

Impact to small business relative to the cost of compliance with code

No cost impact as the modification is editorial.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes, as it provides needed clarity.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, as it provides needed clarity.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12186Text Modification

1027.5 Location.

Exterior exit stairways and *ramps* shall be separated by ~~have~~ a minimum ~~fire separation~~ distance of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway* or *ramps*, including landings, to:

1. Adjacent *lot lines* or to the centerline of a street, alley or public way.
2. Other portions of the building and other buildings on the same lot.
3. ~~Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 based on *fire separation distance*.~~

For the purposes of this section, other portions of the building shall be treated as separate buildings.

~~Exception~~ Exceptions:

1. Exterior exit stairways and ramps serving individual dwelling units of Group R-3 shall ~~have~~ a minimum ~~fire separation~~ distance of 5 feet (1524 mm).
2. Where the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance.

Page: 1

Mod12186_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

62

F12187

Date Submitted	02/16/2025	**Section**	1028.2	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification clarifies that exit signage to direct occupants discharging from an exit enclosure to the hearest exterior exit door is permitted, aligning with NFPA 101.

Rationale

The 2018 edition of NFPA 101 included an amendment to Section 7.7.2(3) that clarified the intent of the code to permit the use of exit signage to direct occupants discharging from an exit enclosure to the nearest exterior exit door: “The interior exit discharge shall lead to a free and unobstructed way to the exterior of the building, and such way shall be readily apparent or shall be identifiable by exit signage from the point of discharge from the exit.” The FBC has lagged behind NFPA 101 and have not yet amended Section 1028.2 Exception 1.1 to provide this clarification. This proposal will clarify that exit signage is permitted to be used for this purpose and will remove the common misconception that an exterior exit discharge must be visible from the point of exit enclosure termination. The proposal will also bring the FBC back into alignment with NFPA on this issue.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The proposed text clarifies the original intent to allow utilization of exit signage to achieve interior exit stairway discharge through areas of the building on the level of exit discharge. The exit signage required for this purpose would already be required by Section 1013.1 and thus adds no cost.

Impact to building and property owners relative to cost of compliance with code

The exit signage required for this purpose would already be required by Section 1013.1 and thus adds no cost.

Impact to industry relative to the cost of compliance with code

The exit signage required for this purpose would already be required by Section 1013.1 and thus adds no cost.

Impact to small business relative to the cost of compliance with code

The exit signage required for this purpose would already be required by Section 1013.1 and thus adds no cost.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes, as it eliminates any confusion of when exit signage is required.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, as it eliminates any confusion of when exit signage is required.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12187Text Modification

1028.2 Exit discharge.

Exits shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required exits.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas on the level of discharge provided all of the following conditions are met:
   1.1 Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior *exit* door and such *exit* is readily visible and identifiable by exit signage from the point of termination of the enclosure.
   1.2 The entire area of the *level of exit discharge* is separated from areas below by construction conforming to the *fire-resistance rating* for the enclosure.
   1.3 The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system*. Portions of the *level of exit discharge* with access to the egress path shall be either equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps*.
   1.4 Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the *exit discharge* door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the *exit discharge* door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the *exit access ramp*.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided all of the following conditions are met:
   2.1 The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp enclosure*.
   2.2 The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
   2.3 The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708.
   Exception: The maximum transmitted temperature rise is not required.
   2.4 The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the building.

Page: 1

Mod12187_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

63

F12226

Date Submitted	02/17/2025	**Section**	1010.2.4	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), the intent of this modification is to coordinate different criteria for single exit provisions for single dwelling units or sleeping units in Groups R.

Rationale

The intent of this provision is to coordinate different criteria for single exit provisions for single dwelling units or sleeping units in Groups R. It is appropriate to coordinate Section 1010.2.4 with this allowance to allow deadbolts to be installed for security on these doors. In order to not have a conflict in the future if this changes again, rather than change the number of occupants for individual dwelling units it is more appropriate to reference the section. The reference to Section 1006.3.3 is to allow for the individual dwelling units addressed in Exceptions 4 and 5.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None, as it's a coordination of current requirements.
Impact to building and property owners relative to cost of compliance with code
None, as it's a coordination of current requirements.
Impact to industry relative to the cost of compliance with code
None, as it's a coordination of current requirements.
Impact to small business relative to the cost of compliance with code
None, as it's a coordination of current requirements.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, as it coordinates current requirements and prevents future conflicts.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, as it coordinates current requirements and prevents future conflicts.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12226Text Modification

1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
   3.1. The locking device is readily distinguishable as locked.
   3.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.3. The use of the key-operated locking device is revocable by the *building official* for due cause.
4. Manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.
5. Single exit doors complying with Section 1006.2.1 or 1006.3.3~~Doors~~ from individual *dwelling* or *sleeping units* of Group R occupancies~~ having an *occupant load* of 10 or less are permitted to be~~ and equipped with a night latch, dead bolt or security chain that requires a second releasing motion, provided such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof, provided that when accessing the roof from the building the locks do not automatically lock, preventing re-entry into the building from the roof.
8. Other than egress courts, where occupants must egress from an exterior space through the building for means of egress, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
   8.1. The maximum occupant load shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Section 1009 shall be located adjacent to not less than one required exit access door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
   8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, “THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED.” The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The occupant load of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less serving a private office space.

Page: 1

Mod12226_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

64

F12227

Date Submitted	02/17/2025	**Section**	1011.2	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this is a simple editorial proposal that strikes a reference to Section 1009 for Accessible Means of Egress as all subsections under Section 1009 are marked reserved.

Rationale

This is a simple editorial proposal that strikes Section 1009 for Accessible Means of Egress as all subsections under Section 1009 are marked reserved in the FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None, editorial
Impact to building and property owners relative to cost of compliance with code
None, editorial
Impact to industry relative to the cost of compliance with code
None, editorial
Impact to small business relative to the cost of compliance with code
None, editorial

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
None, editorial
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes as removes a code reference that is not used in the FL Code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12227Text Modification

1011.2 Width and capacity.

The required capacity of *stairways* shall be determined as specified in Section 1005.1, but the minimum width shall be not less than 44 inches (1118 mm). ~~See Section 1009 for accessible *means of egress stairways*.~~

Exceptions:

1. *Stairways* serving an *occupant load* of less than 50 shall have a width of not less than 36 inches (914 mm).
2. *Spiral stairways* as provided for in Section 1011.10.
3. Where an incline platform lift or stairway chairlift is installed on *stairways* serving occupancies in Group R-3, or within *dwelling units* in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. Where the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

Page: 1

Mod12227_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

65

F12229

Date Submitted	02/17/2025	**Section**	1029.8	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this proposal eliminates a conflict between two sections and clarifies the intent of the provisions.

Rationale

Footnote c of Table 1006.2.1 states "For a room or space used for assembly purposes having fixed seating, see Section 1029.8". Therefore, the shorter common path of travel in Section 1029.8 does not apply to areas that do not have fixed seating. The common path of travel in the table applies to those uses. However, the existing language in Section 1030.8 is written in such a way that it would apply to all assembly uses as outlined in Section 1029.1. This proposal eliminates the conflict between the two sections and clarifies the intent of the provisions.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.
Impact to building and property owners relative to cost of compliance with code
None, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.
Impact to industry relative to the cost of compliance with code
None, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.
Impact to small business relative to the cost of compliance with code
None, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12229Text Modification

1029.8 Common path of egress travel.

The *common path of egress travel* for a room or space used for assembly purposes having fixed seating shall not exceed 30 feet (9144 mm) from any seat to a point where an occupant has a choice of two paths of egress travel to two *exits*.

Exceptions:

1. For areas serving less than 50 occupants, the *common path of egress travel* shall not exceed 75 feet (22 860 mm).
2. For smoke-protected or *open-air assembly seating*, the *common path of egress travel* shall not exceed 50 feet (15 240 mm).

Page: 1

Mod12229_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

66

F12245

Date Submitted	02/17/2025	**Section**	1029.9.5	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this added exception permits a low number of seats to be served by a longer dead-end aisle as has been the case and is consistent with 1029.8 common path of travel for fewer than 50 and general egress requirements.

Rationale

This added exception permits a low number of seats to be served by a longer dead-end aisle as has been the case and is consistent with 1029.8 common path of travel for fewer than 50 and general egress requirements. The same application for dead-end provision is in Section 1020.5. It says one where more than one exit or exit access doorway is required then the dead-end provision will be applied.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, provides for consistency.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, provides for consistency.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12245Text Modification

1029.9.5 Dead end aisles.

Each end of an aisle shall be continuous to a cross aisle, foyer, doorway, vomitory, concourse or stairway in accordance with Section 1029.9.7 having access to an exit.

Exceptions:

1. Dead-end aisles shall be not greater than 20 feet (6096 mm) in length.
2. Dead-end aisles longer than 16 rows are permitted where seats beyond the 16th row dead-end aisle are not more than 24 seats from another aisle, measured along a row of seats having a minimum clear width of 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row where seats have backrests or beyond 10 where seats are without backrests in the row.
3. Dead-end aisles serving fewer than 50 seats shall be permitted in accordance with Section 1029.8.

~~3~~4. For smoke-protected or open-air assembly seating, the dead-end aisle length of vertical aisles shall not exceed a distance of 21 rows.

~~4~~5. For smoke-protected or open-air assembly seating, a longer dead-end aisle is permitted where seats beyond the 21-row dead-end aisle are not more than 40 seats from another aisle, measured along a row of seats having an aisle accessway with a minimum clear width of 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat above seven in the row where seats have backrests or beyond 10 where seats are without backrests in the row.

Page: 1

Mod12245_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

67

F12322

Date Submitted	02/18/2025	**Section**	1010.2.8	**Proponent**	Jack Taylor
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Add: 5. Only used in an emergency lockdown situation or drill, for a finite period. 6. Not used for normal operation and permitted at any height in accordance with Section 1010.2.3 7. The locking mechanism shall not be mounted permanently to the door assembly.

Summary of Modification

A temporary door locking device may be used in public buildings, Group E, B and I-4 occupancies to secure a door to a classroom, office and other occupied rooms during an emergency lockdown situation to facilitate sheltering in place.

Rationale

To ensure that individuals have the inherent right and ability to defend themselves and others while facing an immediate threat to their lives and are not unduly burdened by the strict adherence to the existing codes which restrict extra security locking arrangements. A temporary door locking device may be used in public buildings, Group E, Group B and Group I-4 occupancies to secure a door to a classroom, office and other occupied rooms during an emergency lockdown situation to facilitate sheltering in place. These strict conditions added to the code will guarantee only qualified devices are allowed to be used.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

In light of the unique nature of an active shooter situation the modification allows individuals to use temporary door locking devices for self defense, which may otherwise violate adopted fire codes and building codes which currently do not address non-fire related life safety issues.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Allows alternative protections for occupants who can't evacuate during a hostile threat situation that is non-fire related. Like a fire extinguisher. Only engaged if needed.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Expands and enhances current codes and systems during extraordinary events.

Does not degrade the effectiveness of the code

The modification does not effect the code but adds alternative protections for sheltering in place during non-fire related emergency lockdown, intruder, active shooter situations.

1st Comment Period History

F12322-G1

Proponent Tommy Demopoulos Submitted 3/27/2025 12:41:54 PM Attachments No

Comment:

On behalf of the Florida Fire Marshals and Inspectors Association (FFMIA), we strongly oppose this proposal as it is in direct conflict with the Life Safety Code, section 14.2.2.2.4 (15.2.2.2.4) for Educational occupancies and section 38.2.2.2.2 (39.2.2.2.2) for Business occupancies. Proposal states individual parts, such as bolts, stops, brackets, and pins can be permanently mounted to the door which violates that same section that states modifications to the fire door assembly shall be in accordance with NFPA 80, which may be extremely costly. In addition, as written, multiple sections being proposed say "Can", which is not proper code language as these should say "shall".

1st Comment Period History

12322-G2

Proponent Jennifer Hatfield Submitted 4/16/2025 6:37:08 PM Attachments No

Comment:

On behalf of the Building Officials Association of Florida (BOAF), we oppose this proposal as it conflicts with the Florida Building Code, Florida Fire Provision Code, and NFPA Standards that address accessibility, life safety and standard requirements.

F12322Text Modification

1010.2.8 Locking arrangements in educational occupancies.

In Group E occupancies, Group B educational occupancies and Group I-4 occupancies, egress doors from classrooms, offices and other occupied rooms with locking arrangements designed to keep intruders from entering the room shall comply with all of the following conditions:

1.The door shall be capable of being unlocked from outside the room with a key or other approved means.

2.The door shall be openable from within the room in accordance with Section 1010.2.

3.Modifications shall not be made to listed panic hardware, fire door hardware or door closer.

4.Modifications to fire door assemblies shall be in accordance with NFPA 80

5. The temporary door locking device shall only be used in an emergency lockdown situation and during active shooter drills.

6. Can be engaged or removed without opening the door.

7. The locking arrangement shall only be used for a finite period of time.

8. Locks used only for security purposes and not used for normal operation are permitted at any height in accordance with Section 1010.2.3

9. Can be removed with a single operation once engaged.

10. The temporary door locking device shall not be permanently mounted to the door;, although individual parts of the temporary door locking device assembly, including but not limited to bolts, stops, brackets, and pins that do not prevent normal function of the door, may be permanently mounted.

Page: 1

Mod12322_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

68

F12331

Date Submitted	02/18/2025	**Section**	1010.2.8	**Proponent**	Jack Taylor
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Add: 5. Only used in an emergency lockdown situation or drill, for a finite period. 6. Not used for normal operation and permitted at any height in accordance with Section 1010.2.3 7. The locking mechanism shall not be mounted permanently to the door assembly.

Summary of Modification

A temporary door locking device may be used in public buildings, Group E, B and I-4 occupancies to secure a door to a classroom, office and other occupied rooms during an emergency lockdown situation to facilitate sheltering in place.

Rationale

To ensure that individuals have the inherent right and ability to defend themselves and others while facing an immediate threat to their lives and are not unduly burdened by the strict adherence to the existing codes which restrict extra security locking arrangements. A temporary door locking device may be used in public buildings, Group E, Group B and Group I-4 occupancies to secure a door to a classroom, office and other occupied rooms during an emergency lockdown situation to facilitate sheltering in place. These strict conditions added to the code will guarantee only qualified devices are allowed to be used.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

In light of the unique nature of an active shooter situation the modification allows individuals to use temporary door locking devices for self defense, which may otherwise violate adopted fire codes and building codes which currently do not address non-fire related life safety issues.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Allows alternative protections for occupants who can't evacuate during a hostile threat situation that is non-fire related. Like a fire extinguisher. Only engaged if needed.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Expands and enhances current codes and systems during extraordinary events.

Does not degrade the effectiveness of the code

The modification does not effect the code but adds alternative protections for sheltering in place during non-fire related emergency lockdown, intruder, active shooter situations.

1st Comment Period History

F12331-G1

Proponent Tommy Demopoulos Submitted 3/27/2025 12:41:09 PM Attachments No

Comment:

On behalf of the Florida Fire Marshals and Inspectors Association (FFMIA), we strongly oppose this proposal as it is in direct conflict with the Life Safety Code, section 14.2.2.2.4 (15.2.2.2.4) for Educational occupancies and section 38.2.2.2.2 (39.2.2.2.2) for Business occupancies. Proposal states individual parts, such as bolts, stops, brackets, and pins can be permanently mounted to the door which violates that same section that states modifications to the fire door assembly shall be in accordance with NFPA 80, which may be extremely costly. In addition, as written, multiple sections being proposed say "Can", which is not proper code language as these should say "shall".

1st Comment Period History

12331-G2

Proponent Jennifer Hatfield Submitted 4/16/2025 6:37:30 PM Attachments No

Comment:

On behalf of the Building Officials Association of Florida (BOAF), we oppose this proposal as it conflicts with the Florida Building Code, Florida Fire Provision Code, and NFPA Standards that address accessibility, life safety and standard requirements.

F12331 Text Modification

1010.2.8 Locking arrangements in educational occupancies.

In Group E occupancies, Group B educational occupancies and Group I-4 occupancies, egress doors from classrooms, offices and other occupied rooms with locking arrangements designed to keep intruders from entering the room shall comply with all of the following conditions:

1.The door shall be capable of being unlocked from outside the room with a key or other approved means.

2.The door shall be openable from within the room in accordance with Section 1010.2.

3.Modifications shall not be made to listed panic hardware, fire door hardware or door closer.

4.Modifications to fire door assemblies shall be in accordance with NFPA 80

5. The temporary door locking device shall only be used in an emergency lockdown situation and during active shooter drills.

6. Can be engaged or removed without opening the door.

7. The locking arrangement shall only be used for a finite period of time.

8. Locks used only for security purposes and not used for normal operation are permitted at any height in accordance with Section 1010.2.3

9. Can be removed with a single operation once engaged.

10. The temporary door locking device shall not be permanently mounted to the door;, although individual parts of the temporary door locking device assembly, including but not limited to bolts, stops, brackets, and pins that do not prevent normal function of the door, may be permanently mounted.

Page: 1

Mod12331_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

69

F12334

Date Submitted	02/18/2025	**Section**	1010.2.1	**Proponent**	Jack Taylor
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Add: Exception: 4. Doors of Group E, B and I-4 occupancies where occupants may deploy temporary locking arrangements while sheltering in place during an emergency lockdown situation.

Summary of Modification

This modification is related to a proposed modification of Section 1010.2.8. allowing for temporary locking arrangements for extra security during an emergency lockdown active shooter situation.

Rationale

Extra security devices or locking arrangements are needed to protect occupants who need to shelter in place during extremely dangerous events like intruder or active shooter situations where standard door locking hardware and locksets can be unreliable or compromised by force or unlocked through a broken window glass.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Life safety is extremely enhanced when allowing extra security measures to be employed during hostile situations. Secondary locking arrangements relieve most mental health conditions such as anxiety, fear, and post traumatic stress and instills peace of mind and confidence to self protect.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Does not affect existing codes but adds a extra level and better method of protection during non-fire related hostile events.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Temporary locking mechanisms to be allowed already comply with various and current code exceptions already in place .

Does not degrade the effectiveness of the code

Does not.

1st Comment Period History

F12334-G1

Proponent Tommy Demopoulos Submitted 3/27/2025 12:42:56 PM Attachments No

Comment:

On behalf of the Florida Fire Marshals and Inspectors Association (FFMIA), we strongly oppose this proposal as it is in direct conflict with the Life Safety Code, section 14.2.2.2.4 (15.2.2.2.4) for Educational occupancies and section 38.2.2.2.2 (39.2.2.2.2) for Business occupancies. Proposal states individual parts, such as bolts, stops, brackets, and pins can be permanently mounted to the door which violates that same section that states modifications to the fire door assembly shall be in accordance with NFPA 80, which may be extremely costly. In addition, as written, multiple sections being proposed say "Can", which is not proper code language as these should say "shall".

1st Comment Period History

F12334-G2

Proponent Tommy Demopoulos Submitted 3/27/2025 1:07:34 PM Attachments No

Comment:

On behalf of the Florida Fire Marshals and Inspectors Association (FFMIA), we strongly oppose this proposal as it is in direct conflict with the Life Safety Code, section 14.2.2.2.4 (15.2.2.2.4) for Educational occupancies and section 38.2.2.2.2 (39.2.2.2.2) for Business occupancies. Proposal states individual parts, such as bolts, stops, brackets, and pins can be permanently mounted to the door which violates that same section that states modifications to the fire door assembly shall be in accordance with NFPA 80, which may be extremely costly. In addition, as written, multiple sections being proposed say "Can", which is not proper code language as these should say "shall".

1st Comment Period History

12334-G3

Proponent Jennifer Hatfield Submitted 4/16/2025 6:35:35 PM Attachments No

Comment:

On behalf of the Building Officials Association of Florida (BOAF), we oppose this proposal as it conflicts with the Florida Building Code, Florida Fire Provision Code, and NFPA Standards that address accessibility, life safety and standard requirements.

F12334 Text Modification

1010.2.1 Unlatching.

The unlatching of any door or leaf shall not require more than one operation. Manual bolts are not permitted.

EXCEPTION:

1.Places of detention or restraint.

2.Doors with manual bolts, automatic flush bolts, and constant latching bolts as permitted by Section 1010.2.4, Item 4.

3.Doors from individual dwelling units and sleeping units of Group R occupancies as permitted by Section 1010.2.4, Item 5

4. Doors of Group E, B and I-4 occupancies where occupants may deploy temporary locking arrangements while sheltering in place during an emergency lockdown situation.

Page: 1

Mod12334_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

70

F12338

Date Submitted	02/18/2025	**Section**	1010.2.4	**Proponent**	Jack Taylor
Chapter	10	**Affects HVHZ**	No	**Attachments**	Yes
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Add: 11. In Group E, B, and I-4 occupancies where occupants need to shelter in place during an emergency lockdown or active shooter situation.

Summary of Modification

This modification is related to a proposed modification of Section 1010.2.8. allowing for temporary locking arrangements for extra security during an emergency lockdown or active shooter situation.

Rationale

Extra security devices or locking arrangements are needed to protect occupants who need to shelter in place during extremely dangerous events like intruder or active shooter situations where standard door locking hardware and locksets can be unreliable or compromised by force or unlocked through a broken window glass.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Life safety is extremely enhanced when allowing extra security measures to be employed during hostile situations. Secondary locking arrangements relieve most mental health conditions such as anxiety, fear, and post traumatic stress and instills peace of mind and confidence to self protect.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Does not affect existing codes but adds a extra level and better method of protection during non-fire related hostile events.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not affect any other systems, panic hardware, fire door hardware or door closure. Temporary locking mechanisms to be allowed are compliant with NFPA 80.

Does not degrade the effectiveness of the code

Does not.

1st Comment Period History

F12338-G1

Proponent Tommy Demopoulos Submitted 3/27/2025 12:42:29 PM Attachments No

Comment:

On behalf of the Florida Fire Marshals and Inspectors Association (FFMIA), we strongly oppose this proposal as it is in direct conflict with the Life Safety Code, section 14.2.2.2.4 (15.2.2.2.4) for Educational occupancies and section 38.2.2.2.2 (39.2.2.2.2) for Business occupancies. Proposal states individual parts, such as bolts, stops, brackets, and pins can be permanently mounted to the door which violates that same section that states modifications to the fire door assembly shall be in accordance with NFPA 80, which may be extremely costly. In addition, as written, multiple sections being proposed say "Can", which is not proper code language as these should say "shall".

1st Comment Period History

12338-G2

Proponent Jennifer Hatfield Submitted 4/16/2025 6:36:30 PM Attachments No

Comment:

On behalf of the Building Officials Association of Florida (BOAF), we oppose this proposal as it conflicts with the Florida Building Code, Florida Fire Provision Code, and NFPA Standards that address accessibility, life safety and standard requirements.

F12338Text Modification

1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.

2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.

3. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:

3.1. The locking device is readily distinguishable as locked.

3.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.

3.3. The use of the key-operated locking device is revocable by the building official for due cause.

4. Manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.

5. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.

6. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.

7. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof, provided that when accessing the roof from the building the locks do not automatically lock, preventing re-entry into the building from the roof.

8. Other than egress courts, where occupants must egress from an exterior space through the building for means of egress, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:

8.1. The maximum occupant load shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.

8.2. A weatherproof telephone or two-way communication system installed in accordance with Section 1009 shall be located adjacent to not less than one required exit access door on the exterior side.

8.3. The egress door locking device is readily distinguishable as locked and shall be a key operated locking device.

8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m2) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.

Page: 1

Mod12338_TextOfModification.pdf

F12338 Text Modification

8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, “THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED.” The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.

8.6. The occupant load of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.

9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.

10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m2) or less serving a private office space.

11. In Group E, B, and I-4 occupancies where occupants need to shelter in place during an emergency lockdown situation in accordance with Section 1010.2.8.

Page: 2

Mod12338_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

71

F12260

Date Submitted	02/18/2025	**Section**	14	**Proponent**	Cade Booth
Chapter	14	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12260Text Modification

CHAPTER 14

EXTERIOR WALLS

SECTION 1405

INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

SECTION 1406

COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.

2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.

3. Combustible exterior wall coverings constructed of *fire-retardant-treated wood* complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.

4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Page: 1

Mod12260_TextOfModification.pdf

F12260Text Modification

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.

2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.

3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.

4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 2

Mod12260_TextOfModification.pdf

F12260Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

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glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

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F12260Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R_h	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

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SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

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CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

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CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

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APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12260_Text_FBC Mass Timber Full Package - ch 14.pdf

F12260Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12260_Rationale_FBC Mass Timber Summary.pdf

F12260Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12260_Rationale_FBC Mass Timber Summary.pdf

F12260Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12260_Rationale_FBC Mass Timber Summary.pdf

F12260Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12260_Rationale_FBC Mass Timber Rationale.pdf

F12260Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12260_Rationale_FBC Mass Timber Rationale.pdf

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For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12260_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

72

F12288

Date Submitted	02/18/2025	**Section**	1405.5	**Proponent**	Cade Booth
Chapter	14	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12288Text Modification

CHAPTER 14

EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior hardboard siding or 0.375-inch (9.5 mm) exterior-type wood structural panels or particleboard and shall conform to the following:

1. The veneer shall not exceed 40 feet (12 190 mm) in height above grade. Where fire-retardant-treated wood is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The veneer is attached to or furred from a noncombustible backing that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood veneers (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the building wall.

Page: 1

Mod12288_TextOfModification.pdf

F12288Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12288_Text_1405.5.pdf

F12288Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12288_Text_1405.5.pdf

F12288 Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12288_Text_1405.5.pdf

F12288Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12288_Text_1405.5.pdf

F12288Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12288_Text_1405.5.pdf

F12288Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12288_Text_1405.5.pdf

F12288Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12288_Text_1405.5.pdf

F12288Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12288_Text_1405.5.pdf

F12288Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12288_Text_1405.5.pdf

F12288Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12288_Text_1405.5.pdf

F12288Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12288_Text_1405.5.pdf

F12288Text Modification

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12288_Text_1405.5.pdf

F12288Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12288_Text_1405.5.pdf

F12288Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12288_Text_1405.5.pdf

F12288 Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12288_Text_1405.5.pdf

F12288Text Modification

CHAPTER 33

SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12288_Text_1405.5.pdf

F12288Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12288_Text_1405.5.pdf

F12288Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12288_Text_1405.5.pdf

F12288 Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12288_Text_1405.5.pdf

F12288Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

Mod_12288_Text_1405.5.pdf

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

Mod_12288_Text_1405.5.pdf

F12288Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12288_Text_1405.5.pdf

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

Mod_12288_Text_1405.5.pdf

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24

Mod_12288_Text_1405.5.pdf

F12288 Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12288_Text_1405.5.pdf

F12288 Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12288_Text_1405.5.pdf

F12288Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12288_Text_1405.5.pdf

F12288Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12288_Text_1405.5.pdf

F12288 Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12288_Text_1405.5.pdf

F12288Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12288_Text_1405.5.pdf

F12288Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12288_Text_1405.5.pdf

F12288Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12288_Rationale_FBC Mass Timber Summary.pdf

F12288Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12288_Rationale_FBC Mass Timber Summary.pdf

F12288Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12288_Rationale_FBC Mass Timber Summary.pdf

F12288Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12288_Rationale_FBC Mass Timber Rationale.pdf

F12288Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12288_Rationale_FBC Mass Timber Rationale.pdf

F12288Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12288_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

73

F12289

Date Submitted	02/18/2025	**Section**	1406.2.1	**Proponent**	Cade Booth
Chapter	14	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12289Text Modification

CHAPTER 14

EXTERIOR WALLS

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALL

Revise section as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.

2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.

3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.

4. Wood veneers shall comply with Section 1405.5.

Page: 1

Mod12289_TextOfModification.pdf

F12289Text Modification

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Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12289_Text_1406.2.1.pdf

F12289 Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12289_Text_1406.2.1.pdf

F12289 Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12289_Text_1406.2.1.pdf

F12289 Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12289_Text_1406.2.1.pdf

F12289 Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

FBC 9th edition – Mass Timber Package

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12289_Text_1406.2.1.pdf

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12289_Text_1406.2.1.pdf

F12289 Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12289_Text_1406.2.1.pdf

F12289 Text Modification

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CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

Mod_12289_Text_1406.2.1.pdf

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

Mod_12289_Text_1406.2.1.pdf

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

Page: 22

Mod_12289_Text_1406.2.1.pdf

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

Mod_12289_Text_1406.2.1.pdf

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24

Mod_12289_Text_1406.2.1.pdf

F12289 Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

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CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12289_Text_1406.2.1.pdf

F12289Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12289_Text_1406.2.1.pdf

F12289 Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12289_Text_1406.2.1.pdf

F12289Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12289_Rationale_FBC Mass Timber Summary.pdf

F12289Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12289_Rationale_FBC Mass Timber Summary.pdf

F12289Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12289_Rationale_FBC Mass Timber Summary.pdf

F12289Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12289_Rationale_FBC Mass Timber Rationale.pdf

F12289Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12289_Rationale_FBC Mass Timber Rationale.pdf

F12289Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12289_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

74

F12290

Date Submitted	02/18/2025	**Section**	1406.3	**Proponent**	Cade Booth
Chapter	14	**Affects HVHZ**	No	**Attachments**	Yes
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12290Text Modification

CHAPTER 14

EXTERIOR WALLS

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALL

Revise section as follows:

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than fire-retardant-treated wood shall be fire-resistance rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the building's perimeter on each floor.

Exceptions:

1. On buildings of Type I and II construction, three stories or less above grade plane, fire-retardant-treated wood shall be permitted for balconies, porches, decks and exterior stairways not used as required exits.

2. Untreated wood, and plastic composites that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.

3. Balconies and similar projections on buildings of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a fire-resistance rating where sprinkler protection is extended to these areas.

4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 1

Mod12290_TextOfModification.pdf

F12290Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12290_Text_1406.3.pdf

F12290 Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12290_Text_1406.3.pdf

F12290Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12290_Text_1406.3.pdf

F12290Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12290_Text_1406.3.pdf

F12290Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12290_Text_1406.3.pdf

F12290Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12290_Text_1406.3.pdf

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permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12290_Text_1406.3.pdf

F12290Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12290_Text_1406.3.pdf

F12290Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12290_Text_1406.3.pdf

F12290Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12290_Text_1406.3.pdf

F12290Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12290_Text_1406.3.pdf

F12290 Text Modification

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12290_Text_1406.3.pdf

F12290Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12290_Text_1406.3.pdf

F12290Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12290_Text_1406.3.pdf

F12290Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12290_Text_1406.3.pdf

F12290Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12290_Text_1406.3.pdf

F12290Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12290_Text_1406.3.pdf

F12290Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12290_Text_1406.3.pdf

F12290Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12290_Text_1406.3.pdf

F12290Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION													
	See Footnotes	Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

Mod_12290_Text_1406.3.pdf

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FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24

Mod_12290_Text_1406.3.pdf

F12290Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12290_Text_1406.3.pdf

F12290 Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12290_Text_1406.3.pdf

F12290Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12290_Text_1406.3.pdf

F12290Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12290_Text_1406.3.pdf

F12290Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12290_Text_1406.3.pdf

F12290Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12290_Text_1406.3.pdf

F12290Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12290_Text_1406.3.pdf

F12290Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12290_Rationale_FBC Mass Timber Summary.pdf

F12290Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12290_Rationale_FBC Mass Timber Summary.pdf

F12290Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12290_Rationale_FBC Mass Timber Summary.pdf

F12290Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12290_Rationale_FBC Mass Timber Rationale.pdf

F12290Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12290_Rationale_FBC Mass Timber Rationale.pdf

F12290Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12290_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

75

F12184

Date Submitted	02/16/2025	**Section**	1510.2.2	**Proponent**	Tommy Demopoulos
Chapter	15	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

11099

Summary of Modification

The roofing TAC approved 11099, the Florida Fire Marshals and Inspectors Association are asking for this modification, which clarifies that only unoccupied penthouses and enclosed structures shall not be included in the building height.

Rationale

FFMIA was successful in having proposal 11099 disapproved in the Fire TAC. If these penthouses and roof structures are occupied and the FBC language states it shall not count towards the building height, then there is a conflict between the FBC and FFPC as NFPA 101 3.3.37.7 defines a High-Rise Building as a building where the floor of an occupied story is greater than 75 feet above the lowest level of fire department vehicle access. We understand there are other unoccupied areas that they don't want counted towards building height but there needs to be clear language that the space should not be occupied as this could be the difference between a regular building classification and a high-rise building.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None. Provides more clear explanation.
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposal helps the developer and AHJ fully understand the intent behind the code modification and ensures safety to the general public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This code revision strengthens the Roofing TACs past approved modification, 11099.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This modification does not discriminate.

Does not degrade the effectiveness of the code

The modification does not degrade the code and would say that if not passed, leaving modification 11099 as-is would potentially be weakening the code and causing confusion for developers and AHJ's.

F12184Text Modification

The aggregate area of unoccupied penthouses and other enclosed rooftop structures shall not exceed one-third the area of the supporting roof deck. Such unoccupied penthouses and other unoccupied enclosed rooftop structures shall not be required to be included in determining the building height, number of stories or building area as regulated by Section 503.1. The area of such unoccupied penthouses shall not be included in determining the fire area specific in Section 901.7.

Page: 1

Mod12184_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

76

S12255

Date Submitted	02/17/2025	**Section**	17	**Proponent**	Cade Booth
Chapter	17	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

S12255Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711

MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of *mass timber* elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1

REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

TYPE			CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or

Page: 1

Mod12255_TextOfModification.pdf

S12255Text Modification

adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 2

Mod12255_TextOfModification.pdf

S12255Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

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less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1$ **(Equation 6-1)**

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

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S12255Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R[h]	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20
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S12255Text Modification

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION													
	See Footnotes	Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

Page: 21

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S12255Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24

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S12255Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12255_Text_FBC Mass Timber Full Package - ch 17.pdf

S12255Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12255_Rationale_FBC Mass Timber Summary.pdf

S12255Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12255_Rationale_FBC Mass Timber Summary.pdf

S12255Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12255_Rationale_FBC Mass Timber Summary.pdf

S12255Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12255_Rationale_FBC Mass Timber Rationale.pdf

S12255Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12255_Rationale_FBC Mass Timber Rationale.pdf

S12255Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12255_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

77

F11839

Date Submitted	02/06/2025	**Section**	2603	**Proponent**	Aaron Phillips
Chapter	26	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

11831, 11835, 11836, 11837, 11840, 11841, 11842

Summary of Modification

Clarify that roof assemblies not roof coverings are tested for fire resistance.

Rationale

This modification improves and clarifies terminology associated with roofing fire tests. It corrects instances where results of ASTM E108 or UL 790 tests are associated with a "roof-covering assembly" or a "roofing assembly" instead of a roof assembly. Roof-covering assembly and roofing assembly are undefined terms. ASTM E108 and UL 790 tests are performed on a roof assembly, which involves a roof covering (and sometimes other elements, such as insulation or underlayment) installed onto a roof deck. These tests are always performed on a roof assembly, which by definition includes a roof covering and a roof deck.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None.
Impact to building and property owners relative to cost of compliance with code
None.
Impact to industry relative to the cost of compliance with code
None.
Impact to small business relative to the cost of compliance with code
None.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Improves clarity of the code regarding fire resistance provisions.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves clarity of the code regarding fire resistance provisions.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Improves the effectiveness of the code.

F11839Text Modification

Revise as follows:

2603.3 Surface-burning characteristics. Unless otherwise indicated in this section, foam plastic insulation and foam plastic cores of manufactured assemblies shall have a flame spread index of not more than 75 and a smoke-developed index of not more than 450 where tested in the maximum thickness intended for use in accordance with ASTM E84 or UL 723. Loose fill-type foam plastic insulation shall be tested as board stock for the flame spread and smoke-developed indexes.

Exceptions:

1. Smoke-developed index for interior *trim* as provided for in Section 2604.2.
2. In cold storage buildings, ice plants, food plants, food processing rooms and similar areas, foam plastic insulation where tested in a thickness of 4 inches (102 mm) shall be permitted in a thickness up to 10 inches (254 mm) where the building is equipped throughout with an automatic fire sprinkler system in accordance with Section 903.3.1.1. The approved *automatic sprinkler system* shall be provided in both the room and that part of the building in which the room is located.
3. Foam plastic insulation that is a part of a Class A, B or C *roof assembly* where tested in accordance with ASTM E108 or UL 790 ~~roof-covering assembly~~ provided the assembly with the foam plastic insulation satisfactorily passes NFPA 276 or UL 1256. The smoke-developed index shall not be limited for roof applications.
4. Foam plastic insulation greater than 4 inches (102 mm) in thickness shall have a maximum flame spread index of 75 and a smoke-developed index of 450 where tested at a minimum thickness of 4 inches (102 mm), provided the end use is approved in accordance with Section 2603.9 using the thickness and density intended for use.
5. Flame spread and smoke-developed indexes for foam plastic interior signs in *covered and open mall buildings* provided the signs comply with Section 402.6.4.

2603.4.1.5 Roofing. A thermal barrier is not required for foam plastic insulation that is a part of a Class A, B or C *roof assembly* ~~roof-covering assembly~~ that is installed in accordance with the code and the manufacturer's instructions and is either constructed as described in Item 1 or tested as described in Item 2.

1. The roof assembly is separated from the interior of the building by wood structural panel sheathing not less than 0.47 inch (11.9 mm) in thickness bonded with exterior glue, with edges supported by blocking, tongue-and-groove joints, other approved type of edge support or an equivalent material.

2. The assembly with the foam plastic insulation satisfactorily passes NFPA 276 or UL 1256.

2603.6 Roofing. Foam plastic insulation meeting the requirements of Sections 2603.2, 2603.3 and 2603.4 shall be permitted as part of a *roof assembly*~~roof-covering assembly~~, provided the assembly with the foam plastic insulation is a Class A, B or C *roof assembly* ~~roofing assembly~~ where tested in accordance with ASTM E108 or UL 790.

Page: 1

Mod11839_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

78

F11840

Date Submitted	02/06/2025	**Section**	2610.1	**Proponent**	Aaron Phillips
Chapter	26	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

11831, 11835, 11836, 11837, 11839, 11840, 11842

Summary of Modification

Clarify that roof assemblies not roof coverings are tested for fire resistance.

Rationale

This modification improves and clarifies terminology associated with roofing fire tests. It corrects instances where results of ASTM E108 or UL 790 tests are associated with a "roof-covering" instead of a roof assembly. ASTM E108 and UL 790 tests cannot be performed on a "roof covering." They involve a roof covering (and sometimes other elements, such as insulation or underlayment) installed onto a roof deck. These tests are always performed on a roof assembly, which by definition includes a roof covering and a roof deck.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None.
Impact to building and property owners relative to cost of compliance with code
None.
Impact to industry relative to the cost of compliance with code
None.
Impact to small business relative to the cost of compliance with code
None.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Improves clarity of the code regarding fire resistance provisions.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves clarity of the code regarding fire resistance provisions.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Improves the effectiveness of the code.

F11840Text Modification

Revise as follows:

2610.1 Light-transmitting plastic glazing of skylight assemblies.

Skylight assemblies glazed with light-transmitting plastic shall conform to the provisions of this section and Section 2606.

Exception: Skylights in which the light-transmitting plastic conforms to the required *roof assembly* classification ~~roof covering class~~ in accordance with Section 1505.

Page: 1

Mod11840_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

79

SP11968

Date Submitted	02/10/2025	**Section**	3005	**Proponent**	Josh Phillips
Chapter	30	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

NA

Summary of Modification

Language clarification.

Rationale

Language clarification.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No

No

SP11968Text Modification

See attachment.

Page: 1

Mod11968_TextOfModification.pdf

SP11968Text Modification

"3005.5 Shunt trip. Where elevator hoistways, elevator machine rooms, machinery spaces, control rooms and control spaces containing elevator control equipment are protected with automatic sprinklers, a means installed in accordance with Section 21.4 of NFPA 72 shall be provided to disconnect automatically the main line power supply to the affected elevator prior to the application of water. This means shall not be self-resetting. The activation of automatic sprinklers outside the hoistway, machine room, machinery space, control room or control space shall not disconnect the main line power supply."

Page: 1

Mod_11968_Text_FBC 3005.5.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

80

SP12235

Date Submitted	02/17/2025	**Section**	3006.2	**Proponent**	Jennifer Hatfield
Chapter	30	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), the intent of this modification is to further clarify the need to maintain the protection of exit access corridors when required to meet the fire-resistance rating provisions of Section 1020.2.

Rationale

The intent of this modification is to further clarify the need to maintain the protection of exit access corridors when required to meet the fire-resistance rating provisions of Section 1020.2. When exit access corridors are required to be protected, walls must meet the construction requirement of fire partitions in accordance with Section 708. And Section 708.6 required all openings in fire partitions to be protected in accordance with Section 716.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes as it clarifies important fire resistant rating provisions.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes as it clarifies important fire resistant rating provisions.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

SP12235Text Modification

3006.2 ~~Hoistway opening protection~~ Elevator hoistway door required.

Elevator hoistway doors ~~door openings~~ shall be protected in accordance with Section 3006.3 where an elevator hoistway connects more than three stories, is required to be enclosed within a shaft enclosure in accordance with Section 712.1.1 and any of the following conditions apply:

1. The building is not protected throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
2. The building contains a Group I-1 Condition 2 occupancy.
3. The building contains a Group I-2 occupancy.
4. The building contains a Group I-3 occupancy.
5. The building is a high rise and the elevator hoistway is more than 75 feet (22 860 mm) in height. The height of the hoistway shall be measured from the lowest floor to the highest floor of the floors served by the hoistway.
6. The elevator hoistway door is located in the wall of a corridor required to be fire-resistance rated in accordance with Sections 1020.1 and 708.3.

Exceptions:

1. Protection of elevator hoistway doors ~~door openings~~ is not required where the elevator serves only open parking garages in accordance with Section 406.5.
2. Protection of elevator hoistway doors ~~door openings~~ is not required at the level(s) of exit discharge, provided the level(s) of exit discharge is equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. ~~Enclosed elevator lobbies and protection~~ Protection of elevator hoistway doors ~~door openings~~ are not required on levels where the elevator hoistway opens to the exterior.

Page: 1

Mod12235_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

81

F12261

Date Submitted	02/18/2025	**Section**	3102	**Proponent**	Cade Booth
Chapter	31	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12261Text Modification

CHAPTER 31

SPECIAL CONSTRUCTION

SECTION 3102

MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction.
Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method1 or Test Method2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm)above any floor, balcony or gallery.

Page: 1

Mod12261_TextOfModification.pdf

F12261Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

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less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

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permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1$ **(Equation 6-1)**

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

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Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

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glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261 Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

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CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261 Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261 Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261 Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R_h	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

Page: 21

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261 Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261 Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261 Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261 Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12261_Text_FBC Mass Timber Full Package - ch 31.pdf

F12261Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12261_Rationale_FBC Mass Timber Summary.pdf

F12261Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12261_Rationale_FBC Mass Timber Summary.pdf

F12261Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12261_Rationale_FBC Mass Timber Summary.pdf

F12261Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12261_Rationale_FBC Mass Timber Rationale.pdf

F12261Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12261_Rationale_FBC Mass Timber Rationale.pdf

F12261Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12261_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

82

F12291

Date Submitted	02/18/2025	**Section**	3102.3	**Proponent**	Cade Booth
Chapter	31	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12291 Text Modification

CHAPTER 31

SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise section as follows:

3102.3 Type of construction. Noncombustible membrane structures shall be classified as Type IIB construction. Noncombustible frame or cable-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other membrane structures shall be classified as Type V construction.

Exception: Plastic less than 30 feet (9144 mm) above any floor used in greenhouses, where occupancy by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

Page: 1

Mod12291_TextOfModification.pdf

F12291Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12291_Text_3102.3.pdf

F12291 Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12291_Text_3102.3.pdf

F12291 Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12291_Text_3102.3.pdf

F12291Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

F12291Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the *noncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12291_Text_3102.3.pdf

F12291Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12291_Text_3102.3.pdf

F12291Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12291_Text_3102.3.pdf

F12291Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12291_Text_3102.3.pdf

F12291Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12291_Text_3102.3.pdf

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CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12291_Text_3102.3.pdf

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12291_Text_3102.3.pdf

F12291 Text Modification

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SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12291_Text_3102.3.pdf

F12291 Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12291_Text_3102.3.pdf

F12291 Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12291_Text_3102.3.pdf

F12291Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12291_Text_3102.3.pdf

F12291Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12291_Text_3102.3.pdf

F12291Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12291_Text_3102.3.pdf

F12291Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12291_Text_3102.3.pdf

F12291Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12291_Text_3102.3.pdf

F12291Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

Mod_12291_Text_3102.3.pdf

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

Mod_12291_Text_3102.3.pdf

F12291Text Modification

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

Mod_12291_Text_3102.3.pdf

F12291Text Modification

FBC 9th edition – Mass Timber Package

SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

Mod_12291_Text_3102.3.pdf

F12291 Text Modification

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24

Mod_12291_Text_3102.3.pdf

F12291 Text Modification

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12291_Text_3102.3.pdf

F12291Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12291_Text_3102.3.pdf

F12291Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12291_Text_3102.3.pdf

F12291Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12291_Text_3102.3.pdf

F12291 Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12291_Text_3102.3.pdf

F12291 Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12291_Text_3102.3.pdf

F12291Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12291_Text_3102.3.pdf

F12291Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12291_Rationale_FBC Mass Timber Summary.pdf

F12291Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12291_Rationale_FBC Mass Timber Summary.pdf

F12291Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12291_Rationale_FBC Mass Timber Summary.pdf

F12291Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12291_Rationale_FBC Mass Timber Rationale.pdf

F12291Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12291_Rationale_FBC Mass Timber Rationale.pdf

F12291Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12291_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

83

F12292

Date Submitted	02/18/2025	**Section**	3102.6.1.1	**Proponent**	Cade Booth
Chapter	31	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12292Text Modification

CHAPTER 31

SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise section as follows:

3102.6.1.1 Membrane. A membrane meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a skylight on buildings of Type IIB, III, IV-HT and V construction, provided the membrane is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 1

Mod12292_TextOfModification.pdf

F12292Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12292_Text_3102.6.1.1.pdf

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less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12292_Text_3102.6.1.1.pdf

F12292 Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

FBC 9th edition – Mass Timber Package

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12292_Text_3102.6.1.1.pdf

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R[h]	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

Mod_12292_Text_3102.6.1.1.pdf

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

Page: 22

Mod_12292_Text_3102.6.1.1.pdf

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24

Mod_12292_Text_3102.6.1.1.pdf

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25
Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28
Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12292_Text_3102.6.1.1.pdf

F12292Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12292_Text_3102.6.1.1.pdf

F12292Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12292_Rationale_FBC Mass Timber Summary.pdf

F12292Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12292_Rationale_FBC Mass Timber Summary.pdf

F12292Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12292_Rationale_FBC Mass Timber Summary.pdf

F12292Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12292_Rationale_FBC Mass Timber Rationale.pdf

F12292Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12292_Rationale_FBC Mass Timber Rationale.pdf

F12292Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12292_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

84

F12251

Date Submitted	02/17/2025	**Section**	3314.1	**Proponent**	Cade Booth
Chapter	33	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12251 Text Modification

CHAPTER 33

SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314

FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

Exceptions:

1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 1

Mod12251_TextOfModification.pdf

F12251Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251 Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251 Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1$ **(Equation 6-1)**

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251 Text Modification

FBC 9th edition – Mass Timber Package

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Page: 11

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251 Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

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SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251 Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R_h	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

Page: 21

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

(continued)

Page: 23

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251 Text Modification

FBC 9th edition – Mass Timber Package

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

(continued)

Page: 24

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251 Text Modification

TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m².

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251 Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12251_Text_FBC Mass Timber Full Package - ch 33.pdf

F12251Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12251_Rationale_FBC Mass Timber Summary.pdf

F12251Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12251_Rationale_FBC Mass Timber Summary.pdf

F12251Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12251_Rationale_FBC Mass Timber Summary.pdf

F12251Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12251_Rationale_FBC Mass Timber Rationale.pdf

F12251Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12251_Rationale_FBC Mass Timber Rationale.pdf

F12251Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12251_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

85

SP11923

Date Submitted	02/06/2025	**Section**	35	**Proponent**	Josh Phillips
Chapter	35	**Affects HVHZ**	No	**Attachments**	Yes
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

469.4.9.1, 907.3.3, 911.1.6, 1607.10.1, 3001.2, 3001.1, Table 3001.2, 3001.4, 3001.6, 3002.5, 3002.10, 3003.2, 3006.3, 3007.1, 3008.1.3, 3008.1.4, 3008.7.1, 3010. 1.3, 3012.1 . 469.4.9.1, 3001.1, 3001.2, 3001.5.3, 3010. 1.3, 3012.1

Summary of Modification

See attachment.

Rationale

Bureau of Elevator Safety request.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
none
Impact to building and property owners relative to cost of compliance with code
none
Impact to industry relative to the cost of compliance with code
none
Impact to small business relative to the cost of compliance with code
none

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Safety of the riding public on moving conveyances regulates under Florida Statute 399.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Allows for new construction to utilize the safest conveyance technology available.

No

Does not degrade the effectiveness of the code

No

SP11923Text Modification

CHAPTER 35 REFERENCED STANDARDS

SP11923Impact Statement

Escalators Table 3001.2
A18.1—~~20202023~~2020 Safety Standard for Platform Lifts and Stairway Chairlifts . . . . . 3001.1, Table 3001.2, 3012.1 A90.1—2015 Safety Standard for Belt Manlifts . . . . . .Table 3001.2, 3001.6

Page: 1

Mod_11923_Impact_A18.1-2020.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

86

F12263

Date Submitted	02/18/2025	**Section**	102.2.5	**Proponent**	Cade Booth
Chapter	35	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12263Text Modification

CHAPTER 35

REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20 **North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition
722.7.2.1

ANSI/APA PRG 320-2019 **Standard for Performance-Rated Cross-Laminated Timber**
602.4

ASTM C920—18 **Standard for Specification for Elastomeric Joint Sealants**
703.9

ASTM C1002—20 **Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs**
722.7.2.2

ASTM D3498—19a **Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems**
703.9

ASTM D7032—21 **Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails**
703.9, 705.2.3.1

ASTM E84—21a **Standard Test Methods for Surface Burning Characteristics of Building Materials**
202, 602.4.1.1, 602.4.2.1, 602.4.3.1,

ASTM E119—20 **Standard Test Methods for Fire Tests of Building Construction and Materials**
703.8

ASTM E1354—17 **Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter**
602.4.1.1, 602.4.2.1, 602.4.3.1

NFPA 241—22 **Standard for Safeguarding Construction, Alteration and Demolition Operations**
3301.1, 3303.2

NFPA 275—22 **Standard Method of Fire Tests for the Evaluation of Thermal Barriers**
508.4.4.1, 509.4.1

NFPA 701—23 **Standard Methods of Fire Tests for Flame Propagation of Textiles and Films**
3102.3, 3102.6.1.1

UL 263—11 **Fire Tests of Building Construction and Materials – with Revisions through August 2021**
703.8

UL 723—18 **Standard for Test for Surface Burning Characteristics of Building Materials**
602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 1

Mod12263_TextOfModification.pdf

F12263Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263 Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263 Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263 Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

FBC 9th edition – Mass Timber Package

SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263 Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263 Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263 Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263 Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403 HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

CHAPTER 17
SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

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CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
Rh	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

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Page: 21

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TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

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SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

CHAPTER 35

REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12263_Text_FBC Mass Timber Full Package - ch 35.pdf

F12263Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12263_Rationale_FBC Mass Timber Summary.pdf

F12263Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12263_Rationale_FBC Mass Timber Summary.pdf

F12263Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12263_Rationale_FBC Mass Timber Summary.pdf

F12263Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12263_Rationale_FBC Mass Timber Rationale.pdf

F12263Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12263_Rationale_FBC Mass Timber Rationale.pdf

F12263Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12263_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

87

F12301

Date Submitted	02/18/2025	**Section**	202	**Proponent**	Shane Gerwig
Chapter	35	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Building 202 Adds additional method to calculate building area. Building Chapter 35 Adds Referenced Standards Residential R202 Adds additional method to calculate building area. Residential Chapter 46 Adds Referenced Standard

Summary of Modification

This modification adds the referenced standard that provides an additional path to calculate building area.

Rationale

This adds the referenced standards to support the additional language for Building Area definition.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
No impact. Adds alternative method.
Impact to building and property owners relative to cost of compliance with code
No impact. Adds alternative method.
Impact to industry relative to the cost of compliance with code
No impact. Adds alternative method.
Impact to small business relative to the cost of compliance with code
No impact. Adds alternative method.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The additional language provides for an option to allow for consistency with industry standards.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The additional language provides for an option to allow for consistency with industry standards.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Materials, products, methods, or systems of construction are not impacted as this provides for an additional method.

Does not degrade the effectiveness of the code

This modification will not degrade the effectiveness of the code.

F12301 Text Modification

CHAPTER 35
REFERENCED STANDARDS

Add the following standards below:

BOMA Building Owners and Managers Association International

1101 15th Street NW

Suite 800

Washington, DC 20005

ANSI/BOMA Z65.1-2024	Office Buildings Standard Methods of Measurement	202
ANSI/BOMA Z65.2-2025	Industrial Buildings Standard Methods of Measurement	202
ANSI/BOMA Z65.3-2018	Gross Areas Standard Methods of Measurement	202
ANSI/BOMA Z65.4-2023	Multi-Family and Hospitality Properties Standard Methods of Measurement	202
ANSI/BOMA Z65.5-2020	Retail Properties Standard Method of Measurement	202
ANSI/BOMA Z65.6-2021	Mixed-Use Properties Standard Method of Measurement	202

Page: 1

Mod12301_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

88

F12337

Date Submitted	02/18/2025	**Section**	35	**Proponent**	Mo Madani
Chapter	35	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Standards update for consistency with FFPC.

Rationale

Standards update for consistency with FFPC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Standards update
Impact to building and property owners relative to cost of compliance with code
Standards update
Impact to industry relative to the cost of compliance with code
Standards update
Impact to small business relative to the cost of compliance with code
Standards ukpdate

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Yes.
Does not degrade the effectiveness of the code
Yes

F12337Text Modification

See attached.

Page: 1

Mod12337_TextOfModification.pdf

F12337Text Modification

Page: 1

Mod_12337_Text_Reference Standards code change to 2026 FBC Use this one Submitted .pdf

Comparison of NFPA 1and NFPA 101 to the 2026 FBC

NFPA 2—~~19~~2023	Hydrogen Technologies Code.	FFG, FMC
NFPA 13R-~~2019~~2022	Standard for the Installation of Sprinkler Systems in Low Rise Residential Occupancies	FBC, FRC, FEB
NFPA 14-~~2022~~2024	Standard for the Installation of Standpipe and Hose Systems	FBC,
NFPA 17-~~2021~~2024	Standard for Dry Chemical Extinguishing Systems	FBC
NFPA 30A -~~2021~~2024	Code for Motor Fuel-Dispensing Facilities and Repair Garages	FBC, FFG, FMC
NFPA 37-~~2021~~2024	Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines	FFG
NFPA 45-~~2023~~2024	Standard on Fire Protection Laboratories Using Chemicals (2015 Edition)	FBC
NFPA 56 – ~~17 or 20~~ 2023	Standard for Fire and Explosion Prevention during Cleaning and Purging of Flammable Gas Piping Systems	FMC
NFPA 58-~~2020 or 2023~~ 2024	Liquefied Petroleum Gas Code	FBC, FRC, FFG, FMC
NFPA 70-~~2020~~2023	National Electrical Code (NEC)	FBC, FRC, FFG, FMC, FPC, FECR, FECC, FEB
NFPA 72-~~2019~~2022	National Fire Alarm and Signaling Code	FBC, FRC, FEB, FMC
NFPA 90A-~~2015~~ 2024	NFPA 90A-2024	FMC
NFPA 96-~~2021~~2024	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations	FBC
NFPA 99 - ~~21~~2024	Health Care Facilities Code	FBC
NFPA 101-~~2021~~2024	Life Safety Code	FBC, FEB,
NFPA 120-~~20~~2023	Standard for Fire Prevention and Control in Coal Mines	FBC
NFPA 211-~~2022~~2024	Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances	FBC, FRC, FFG, FMC
NFPA 265-~~2019~~2023	Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile or Expanded Vinyl Wall Coverings on Full Height Panels and Walls	FBC
NFPA 286-~~2023~~2024	Standard Methods of Fire Test for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth	FRC, FMC
NFPA 914-~~2001~~2023	Code for Fire Protection of Historic Structures	FEB

F12337Text Modification

NFPA

780—~~17~~ 2023	Standard for the Installation of Lightning Protection Systems	FBC

Mod_12337_Text_Reference Standards code change to 2026 FBC Use this one Submitted .pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

89

F11841

Date Submitted	02/06/2025	**Section**	102.2.4	**Proponent**	Aaron Phillips
Chapter	2704	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

11831, 11835, 11836, 11837, 11839, 11840, 11841

Summary of Modification

Clarify that roof assemblies, not roof coverings, are tested for fire resistance.

Rationale

This modification improves and clarifies terminology associated with roofing fire tests. It corrects instances where results of ASTM E108 or UL 790 tests are associated with a "roof covering" instead of a roof assembly. ASTM E108 and UL 790 tests cannot be performed on a "roof covering." They involve a roof covering (and sometimes other elements, such as insulation or underlayment) installed onto a roof deck. These tests are always performed on a roof assembly, which by definition includes a roof covering and a roof deck.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None.
Impact to building and property owners relative to cost of compliance with code
None.
Impact to industry relative to the cost of compliance with code
None.
Impact to small business relative to the cost of compliance with code
None.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Improves clarity of the code regarding fire resistance provisions.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves clarity of the code regarding fire resistance provisions.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Improves the effectiveness of the code.

F11841Text Modification

D102.2.4 Roof covering.

Roof covering in the fire district shall conform to the requirements of Class A or B *roof assemblies* ~~roof coverings~~ as defined in Section 1505.

Page: 1

Mod11841_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Building

90

F12262

Date Submitted	02/18/2025	**Section**	102.2.5	**Proponent**	Cade Booth
Chapter	2704	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

Impact to building and property owners relative to cost of compliance with code

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

Impact to small business relative to the cost of compliance with code

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn’t alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

F12262Text Modification

APPENDIX D

FIRE DISTRICTS

SECTION D102

BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 1

Mod12262_TextOfModification.pdf

F12262Text Modification

FBC 9th edition – Mass Timber Package

Th following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and refence for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

Page: 1

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

TABLE OF CONTENTS

Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (continued)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 2

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

INDEX - IN ORDER OF SECTION REFERENCE

		Page
Chapter 1 - Scope and Administration		
Section 110.3.14	Types IV-A, IV-B, and IV-C connection protection inspection.	16
Chapter 2 - Definitions		
[BS] WALL, LOAD BEARING		16
MASS TIMBER		16
NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER)		16
Chapter 4 - Special Detailed Requirements Based on Occupancy and Use		
Section 403.3.2	Water supply to required fire pumps.	12
Chapter 5 - General Buidling Heights and Areas		
Table 504.3	Allowable Building Height in Feet above Grade Plane	17
Table 504.4	Allowable Number of Stories above Grade Plane	18
Table 504.4 (cont'd)	Allowable Number of Stories above Grade Plane (continued)	19
Table 506.2	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet	20
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	21
Table 506.2 (cont'd)	Allowable Area Factor (At = NS, S1, S13R, or SM, as applicable) in Square Feet (cont'd)	22
Section 508.4.4.1	Construction.	23
Section 509.4.1.1	Type IV-B and IV-C construction.	23
Chapter 6 - Types of Construction		
Table 601	Fire-resistance Rating Requirements for Buidling Elements (Hours).	1
Section 602.4	Type IV.	2-6
Chapter 7 - Fire and Smoke Protection Features		
Section 703.8	Determination of noncombustible protection time contribution.	7
Section 703.9	Sealing of adjacent mass timber elements.	7
Table 705.5	Fire-resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance	8
Section 718.2.1	Fireblocking materials.	9
Section 722.7	Fire-resistance rating for mass timber.	10
Chapter 14 - Exterior Walls		
Section 1405.5	Wood Veneers.	24
Section 1406.2.1	Type I, II, III, and IV-HT construction.	25
Section 1406.3	Balconies and similar projections.	25
Chapter 17 - Special Inspection and Tests		
Section 1711.1	Mass timber construction.	15
Table 1711.1	Required Inspections of Mass Timber Construction	15
Section 1711.2	Sealing of mass timber.	15
Chapter 23 - Wood		
Section 2301.3	Dimensions.	14
Section 2304.10.8	Fire protection of connections.	14
Section 2304.11.1.1	Columns.	14
Section 2304.11.3	Floors.	14
Section 2304.11.4	Roof decks.	14
Chapter 31 - Special Construction		
Section 3102.3	Type of construction.	26
Section 3102.6.1.1	Membrane.	26
Chapter 33 - Safeguards During Construction		
Section [F] 3314.1	Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction.	13
Chapter 35 - Referenced Standards		27
Appendix D - Fire Districts		
Section D102.2.5	Structural fire rating.	28

Page: 3

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 6
TYPES OF CONSTRUCTION

SECTION 601
GENERAL

Revise table as follows:

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a,b,c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	$1^1/_2$	1	1	HT	1	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Where every part of the roof construction is 20 feet or more above the floor or mezzanine immediately below, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking, except where any of the following conditions apply.

1. In Group F-1, H, M, and S-1 occupancies.
2. Where the roof is an occupiable space.

Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

Page: 4

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

SECTION 602
CONSTRUCTION CLASSIFICATION

Revise and add new sections as follows:

602.4 Type IV. ~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1 hour fire resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.~~ Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the n*oncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

> **Exception:** Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

> **Exception:** Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

> **602.4.1 Type IV-A.** *Building elements* in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required *fire-resistance rating* of noncombustible elements and protected *mass timber* elements shall be determined in accordance with Section 703.2.
>
> > **602.4.1.1 Exterior protection.** The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of

Page: 5

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.1.2 Interior protection. Interior faces of all *mass timber* elements, including the inside faces of exterior *mass timber* walls and *mass timber* roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

602.4.1.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.1.4 Roofs. The *interior surfaces* of *roof assemblies* shall be protected in accordance with Section 602.4.1.2. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the *roof assembly*.

602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections through 602.4.2.6. The required *fire-resistance rating* of noncombustible elements or *mass timber* elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of *exterior walls* of *mass timber* construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be

Page: 6

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

permitted to be used for compliance with Section 722.7.1.

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of *mass timber* ceilings and walls complying with one of the following:

1.1 Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area*, where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/\ U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \textbf{(Equation 6-1)}$$

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls shall be not less than 15 feet (4572 mm) from unprotected portions of other walls measured horizontally along the floor.

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

Page: 7

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

Section 602.4.1.2.

602.4.2.4 Roofs. The *interior surfaces* of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.2.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. Both the *shaft* side and room side of *mass timber* elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. *Building elements* in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required *fire-resistance rating* of *building elements* shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the *exterior wall covering* shall be of noncombustible material except *water-resistive barriers* having a peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having a *flame spread index* of 25 or less and a *smoke-developed index* of 450 or less as determined in accordance with ASTM E84 or UL 723. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.

602.4.3.2 Interior protection. *Mass timber* elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. *Roof coverings* in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. *Shafts* shall be permitted in accordance with Sections 713 and 718. *Shafts* and elevator hoistway and *interior exit stairway enclosures* shall be protected with *noncombustible protection* with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the *shaft* and the outside of the *shaft*.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the *exterior walls* are of noncombustible materials and the interior *building elements* are of solid wood, laminated heavy timber or *structural composite lumber* (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber,

Page: 8

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

glued-laminated timber, SCL and *cross-laminated timber* (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. *Exterior walls* complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~ **602.4.4.1. Fire-retardant-treated wood in *exterior walls*.** *Fire-retardant-treated wood* framing and sheathing complying with Section 2303.2 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less.

~~602.4.2~~ **602.4.4.2 Cross-laminated timber in *exterior walls*.** *Cross-laminated timber* not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within *exterior wall* assemblies with a 2-hour rating or less. Heavy timber structural members appurtenant to the *CLT exterior wall* shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the *exterior wall*. The exterior surface of the *cross-laminated timber* and heavy timber elements shall be ~~is~~ protected by one the following:

1. *Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick.
2. *Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *Florida Building Code, Mechanical*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8 -inch *Type X gypsum board*.

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

~~602.4.3~~ **602.4.4.4 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Page: 9

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES

SECTION 703
FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

703.8 Determination of noncombustible protection time contribution. The time, in minutes, contributed to the *fire-resistance rating* by the *noncombustible protection* of *mass timber building elements*, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the *noncombustible protection*. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.
2. Test Assembly 2 shall include the representative *noncombustible protection*. The protection shall be fully defined in terms of configuration details, attachment details, *joint* sealing details, accessories and all other relevant details.

The *noncombustible protection* time contribution shall be determined by subtracting the *fire-resistance* time, in minutes, of Test Assembly 1 from the *fire-resistance* time, in minutes, of Test Assembly 2.

703.9 Sealing of adjacent mass timber elements. In *buildings* of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of *mass timber building elements* required to be fire-resistance rated.
2. At abutting intersections of *mass timber building elements* and *building elements* of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Page: 10

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

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SECTION 705
PROJECTIONS

Revise table as follows:

TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

8

Page: 11

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

SECTION 718
CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels.*
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard.*
5. One-half-inch (12.7 mm) *gypsum board.*
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

Page: 12

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

SECTION 722
CALCULATED FIRE-RESISTANCE

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating* of *building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, *noncombustible protection* shall be provided for *mass timber building elements* in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the *noncombustible protection* of *mass timber building elements*, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

722.7.2 Installation of gypsum board noncombustible protection. *Gypsum board* complying with Table 722.7.1(2) shall be installed in accordance with this section.

722.7.2.1 Interior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for *interior surfaces* of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the *mass timber* at least 1 inch (25 mm) when driven flush with the paper surface of the *gypsum board*.

   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.

2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.

3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.

Page: 13

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.

5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.

7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an *exterior wall* or a wall with a greater *fire-resistance rating* shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.

8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.

9. Panel edges protecting *mass timber* elements adjacent to unprotected *mass timber* elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of *Type X gypsum board* serving as *noncombustible protection* for the outside of the exterior *mass timber* walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the *mass timber* a minimum of 1 inch (25 mm).

Page: 14

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

SECTION 403
HIGH-RISE BUILDINGS

Revise section as follows:

403.3.2 Water supply to required fire pumps. In all *buildings* that are more than 420 feet (128 000 mm) in *building height* and *buildings* of Type IV-A and IV-B construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Page: 15

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.

2. A water supply for fire department operations, as approved by the fire code official and the fire chief.

3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

   Exceptions:
   1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
   2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.

4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

   Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

Page: 16

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

CHAPTER 23
WOOD

SECTION 2301
GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304
GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in fire-resistance-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the fire-resistance rating. Protection time shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the *fire resistance* test.

2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required *fire-resistance* rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in ~~superimposed throughout~~ all stories of Type IV-HT construction ~~and connected in an approved manner~~. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

2304.11.3 Floors. Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.4 Roof decks. Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent *fire resistance* and structural properties are being provided. Where supported by a wall, *roof decks* shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or *approved* hardware of sufficient strength to resist prescribed forces.

Page: 17

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

CHAPTER 17

SPECIAL INSPECTION AND TESTS

SECTION 1711
MASS TIMBER CONSTRUCTION

Add new sections and table as follows:

1711.1 Mass timber construction. Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

	TYPE		CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber. Periodic *special inspections* of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to *mass timber building elements* as designated in the *approved construction documents*.

Page: 18

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

CHAPTER 1
SCOPE AND ADMINISTRATION

SECTION 110
INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2
DEFINITIONS

SECTION 202
DEFINITIONS

Revise and add new definitions as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
2. Any *masonry*, ~~or~~ concrete, or *mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER). Noncombustible material, in accordance with Section 703.5, designed to increase the *fire-resistance rating* and delay the combustion of *mass timber*.

Page: 19

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

FBC 9th edition – Mass Timber Package

CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

Revise tables as follows:

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS[c,d]	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS[c,d]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1, I-3	NS[d,e]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2, I-2	NS[d,e,f]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85									
I-4	NS[d,g]	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R_h	NS[d,h]	UL	160	65	55	65	55	65	65	65	65	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 20

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

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TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS[c, d]	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS[c, d]	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS[c, d]	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NS[d, f]	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS[d, e]	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NS[d, g]	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2

(continued)

Page: 21

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

FBC 9th edition – Mass Timber Package

TABLE 504.4[a, b]—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
R-1	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS[d, h]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing *building height* in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8

19

Page: 22

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SECTION 506
BUILDING AREA

Revise table as follows:

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

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Page: 23

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable)
IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS[d, g]	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS[d, h]	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R												
	S1												
	SM												
R-4	NS[d, h]	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R												
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

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Page: 24

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TABLE 506.2[a, b]—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m².

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

a. See Chapters 4 and 5 for specific exceptions to the allowable area in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building area in accordance with the *Florida Building Code, Existing Building*.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the *Florida Fire Prevention Code*.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

Page: 25

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

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SECTION 508
MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509
INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 specifies a fire-resistance-rated separation, *mass timber* elements serving as *fire barriers* or *horizontal assemblies* in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Page: 26

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

CHAPTER 14
EXTERIOR WALLS

SECTION 1405
INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

Page: 27

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building*'s perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood, and plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Page: 28

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CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3102
MEMBRANE STRUCTURES

Revise sections as follows:

3102.3 Type of construction. *Noncombustible membrane structures* shall be classified as Type IIB construction. Noncombustible frame or cable-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported *structures* covered by an *approved membrane* in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other *membrane structures* shall be classified as Type V construction.

> **Exception**: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses*, where *occupancy* by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A *membrane* meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a *skylight* on buildings of Type IIB, III, IV-HT and V construction, provided the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Page: 29

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CHAPTER 35
REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	**North American Standard for Cold-formed Steel Framing-Nonstructural Members**, 2020 Edition 722.7.2.1
ANSI/APA PRG 320-2019	**Standard for Performance-Rated Cross-Laminated Timber** 602.4
ASTM C920—18	**Standard for Specification for Elastomeric Joint Sealants** 703.9
ASTM C1002—20	**Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs** 722.7.2.2
ASTM D3498—19a	**Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems** 703.9
ASTM D7032—21	**Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails** 703.9, 705.2.3.1
ASTM E84—21a	**Standard Test Methods for Surface Burning Characteristics of Building Materials** 202, 602.4.1.1, 602.4.2.1, 602.4.3.1,
ASTM E119—20	**Standard Test Methods for Fire Tests of Building Construction and Materials** 703.8
ASTM E1354—17	**Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter** 602.4.1.1, 602.4.2.1, 602.4.3.1
NFPA 241—22	**Standard for Safeguarding Construction, Alteration and Demolition Operations** 3301.1, 3303.2
NFPA 275—22	**Standard Method of Fire Tests for the Evaluation of Thermal Barriers** 508.4.4.1, 509.4.1
NFPA 701—23	**Standard Methods of Fire Tests for Flame Propagation of Textiles and Films** 3102.3, 3102.6.1.1
UL 263—11	**Fire Tests of Building Construction and Materials – with Revisions through August 2021** 703.8
UL 723—18	**Standard for Test for Surface Burning Characteristics of Building Materials** 602.4.1.1, 602.4.2.1, 602.4.3.1

Page: 30

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Text Modification

APPENDIX D
FIRE DISTRICTS

SECTION D102
BUILDING RESTRICTIONS

Revise section as follows:

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

Page: 31

Mod_12262_Text_FBC Mass Timber Full Package - appendix D.pdf

F12262Rationale

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

At its first meeting, the TWB discussed **several performance objectives** to be met with the proposed criteria for tall wood buildings:

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could present a risk of ignition of the subject building under reasonably severe fire scenarios.
- **No unusual fire department access issues.**
- **Egress systems** designed to protect building occupants during the design escape time, plus a factor of safety.
- **Highly reliable fire suppression systems** to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the **TWB meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber).** These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term **"load-bearing wall"** has been updated to include **"mass timber"** as a category equivalent to other materials. Based on research conducted by wood trade associations, **mass timber walls** (e.g., sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement required of "load bearing".

Mass Timber

The term **"mass timber"** already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

Page: 1

Mod_12262_Rationale_FBC Mass Timber Summary.pdf

F12262Rationale

Noncombustible Protection (For Mass Timber)

The definition of **"Noncombustible Protection (For Mass Timber)"** was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

Page: 2

Mod_12262_Rationale_FBC Mass Timber Summary.pdf

F12262Rationale

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Page: 3

Mod_12262_Rationale_FBC Mass Timber Summary.pdf

F12262Rationale

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

> "The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**" [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

> [The IAFC] "Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**" [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

Page: 1

Mod_12262_Rationale_FBC Mass Timber Rationale.pdf

F12262Rationale

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida's forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

Page: 2

Mod_12262_Rationale_FBC Mass Timber Rationale.pdf

F12262Rationale

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings**: This committee was established to explore the building science of tall wood buildings and develop related code changes. iccsafe.org
    - https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/
        - Note: The "Meeting Minutes and Documents" and "Resource Documents" sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
        - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes**: A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
    - For Building Code Officials: https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf
    - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
    - https://awc.org/woodaware/tmt-fire-testing/
- **Position Statements:**
    - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
    - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

Page: 3

Mod_12262_Rationale_FBC Mass Timber Rationale.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Existing Building

91

F11783

Date Submitted	01/18/2025	**Section**	505.2	**Proponent**	Greg Burke
Chapter	5	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

505.3

Summary of Modification

Correlation for addition of three- and four- family dwellings to the scope.

Rationale

Housing and skilled labor is at a crisis point in the United States. Demand is outpacing supply in a critical way. To entice development and local authorities in providing more options for first time buyers or those who are wishing to down-size, the scope change will enable an opportunity for choice, Moving these two dwelling types into the FBC,R allows construction in an equivalent manner to single-, two-family, and townhouses buildings. More cost savings can come in the form of reduced egress requirements. Single exits could be required that would have stairs meet the riser/tread dimensions reduced from the commercial maximum requirement to the residential requirements for treads and risers. In Occupancy Group R2, under the FBC,B live load will be reduced to 40 psf from the commercial requirement of 100 psf. Other sections of the FBC,R may allow for potential for smaller HVAC units. Financial institutions finance these two types of dwelling units as single-family homes. It is not until a building has five or more residential units that the financing is a commercial loan. For this reason alone, three-family, and four-family dwelling units should be included in the FBC,R. It is possible to purchase these dwellings with an FHA Loan. Realtors in Florida are also permitted to sell up to four units on a residential license. With proper zoning, three-family and four-family dwelling units can be designed and constructed to be compatible in single-family neighborhoods. Most can be constructed within a 35-foot height limit, common in many parts of the state. Normally, three-family, and four-family dwellings are two, two and one-half or three stories above the grade plane making them compatible with a single-family or two-family home. The footprint of either a three- or a four-family building could be designed and constructed in dimensions of forty feet by sixty feet.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The less restrictive application of a residential code souldlessen the burden on enforcement.

Impact to building and property owners relative to cost of compliance with code

Less expensive construction and sales cost.

Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The design of three- and four-family dwelligs are similar in nature to a duplex. As such the dgree of health, safety and elfare is enhanced by admitting these two dwelling types to the residential code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The modification is in line with industry standards for financing and sales.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No.
Does not degrade the effectiveness of the code
No.

F11783Text Modification

In Group R-2 or R-3 buildings containing *dwelling* units and one-, ~~and~~ two-, three- and four-family *dwellings* and townhouses regulated by the *Florida Building Code, Residential,* window opening control devices or other fall protection devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window.

Page: 1

Mod11783_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Existing Building

92

F11784

Date Submitted	01/18/2025	**Section**	505.3	**Proponent**	Greg Burke
Chapter	5	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

505.2

Summary of Modification

Correlation for addition of three- and four- family dwellings to the scope.

Rationale

Housing and skilled labor is at a crisis point in the United States. Demand is outpacing supply in a critical way. To entice development and local authorities in providing more options for first time buyers or those who are wishing to down-size, the scope change will enable an opportunity for choice, Moving these two dwelling types into the FBC,R allows construction in an equivalent manner to single-, two-family, and townhouses buildings. More cost savings can come in the form of reduced egress requirements. Single exits could be required that would have stairs meet the riser/tread dimensions reduced from the commercial maximum requirement to the residential requirements for treads and risers. In Occupancy Group R2, under the FBC,B live load will be reduced to 40 psf from the commercial requirement of 100 psf. Other sections of the FBC,R may allow for potential for smaller HVAC units. Financial institutions finance these two types of dwelling units as single-family homes. It is not until a building has five or more residential units that the financing is a commercial loan. For this reason alone, three-family, and four-family dwelling units should be included in the FBC,R. It is possible to purchase these dwellings with an FHA Loan. Realtors in Florida are also permitted to sell up to four units on a residential license. With proper zoning, three-family and four-family dwelling units can be designed and constructed to be compatible in single-family neighborhoods. Most can be constructed within a 35-foot height limit, common in many parts of the state. Normally, three-family, and four-family dwellings are two, two and one-half or three stories above the grade plane making them compatible with a single-family or two-family home. The footprint of either a three- or a four-family building could be designed and constructed in dimensions of forty feet by sixty feet.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The less restrictive application of a residential code souldlessen the burden on enforcement.

Impact to building and property owners relative to cost of compliance with code

Less expensive construction and sales cost.

Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The design of three- and four-family dwelligs are similar in nature to a duplex. As such the dgree of health, safety and elfare is enhanced by admitting these two dwelling types to the residential code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The modification is in line with industry standards for financing and sales.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No.
Does not degrade the effectiveness of the code
No.

F11784Text Modification

Where windows are required to provide emergency and rescue and rescue openings in Group R-2 or R-3 occupancies and one-, ~~and~~ two-, three- and four-family *dwellings* and town houses regulated by the *Florida Building Code, Residential,* replacement windows shall be exempt from the requirements of Section 1030.2 and 1030.3 of the *Florida Building Code, Building* and sections R310.2.1, R310.2.2 and R310.2.3 of the *Florida Building Code, Residential provided the replacement window meets the following conditions:*

Page: 1

Mod11784_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Existing Building

93

F11785

Date Submitted	01/18/2025	**Section**	702.4	**Proponent**	Greg Burke
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

702.5

Summary of Modification

Correlation for addition of three- and four- family dwellings to the scope.

Rationale

Housing and skilled labor is at a crisis point in the United States. Demand is outpacing supply in a critical way. To entice development and local authorities in providing more options for first time buyers or those who are wishing to down-size, the scope change will enable an opportunity for choice, Moving these two dwelling types into the FBC,R allows construction in an equivalent manner to single-, two-family, and townhouses buildings. More cost savings can come in the form of reduced egress requirements. Single exits could be required that would have stairs meet the riser/tread dimensions reduced from the commercial maximum requirement to the residential requirements for treads and risers. In Occupancy Group R2, under the FBC,B live load will be reduced to 40 psf from the commercial requirement of 100 psf. Other sections of the FBC,R may allow for potential for smaller HVAC units. Financial institutions finance these two types of dwelling units as single-family homes. It is not until a building has five or more residential units that the financing is a commercial loan. For this reason alone, three-family, and four-family dwelling units should be included in the FBC,R. It is possible to purchase these dwellings with an FHA Loan. Realtors in Florida are also permitted to sell up to four units on a residential license. With proper zoning, three-family and four-family dwelling units can be designed and constructed to be compatible in single-family neighborhoods. Most can be constructed within a 35-foot height limit, common in many parts of the state. Normally, three-family, and four-family dwellings are two, two and one-half or three stories above the grade plane making them compatible with a single-family or two-family home. The footprint of either a three- or a four-family building could be designed and constructed in dimensions of forty feet by sixty feet.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The less restrictive application of a residential code souldlessen the burden on enforcement.

Impact to building and property owners relative to cost of compliance with code

Less expensive construction and sales cost.

Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The design of three- and four-family dwelligs are similar in nature to a duplex. As such the dgree of health, safety and elfare is enhanced by admitting these two dwelling types to the residential code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The modification is in line with industry standards for financing and sales.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No.
Does not degrade the effectiveness of the code
No.

F11785Text Modification

In Group R-2 or R-3 buildings containing *dwelling* units and one-, ~~and~~ two-, three- and four-family *dwellings* and townhouses regulated by the *Florida Building Code, Residential,* window opening control devices or other fall protection devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window.

1. 2. 2.1 The window replacement includes the sash and frame.

2.2 The window replacement includes the sash only when the existing frame remains.

3. 3.1 In Group r-2 or R-3 buildings containing dwelling units, the bottom of the clear opening of the window opening is at a height less than 36 inches (915mm) above the finished floor; or

3.2 In one-, ~~and~~ two-, three- and four-family *dwellings* and townhouses regulated by the *Florida Building Code, Residential,* the bottom of the clear opening of the window opening is at a height less than 24 inches (610mm) above the finished floor;

Page: 1

Mod11785_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Existing Building

94

F11786

Date Submitted	01/18/2025	**Section**	702.5	**Proponent**	Greg Burke
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

702.4

Summary of Modification

Correlation for addition of three- and four- family dwellings to the scope.

Rationale

Housing and skilled labor is at a crisis point in the United States. Demand is outpacing supply in a critical way. To entice development and local authorities in providing more options for first time buyers or those who are wishing to down-size, the scope change will enable an opportunity for choice, Moving these two dwelling types into the FBC,R allows construction in an equivalent manner to single-, two-family, and townhouses buildings. More cost savings can come in the form of reduced egress requirements. Single exits could be required that would have stairs meet the riser/tread dimensions reduced from the commercial maximum requirement to the residential requirements for treads and risers. In Occupancy Group R2, under the FBC,B live load will be reduced to 40 psf from the commercial requirement of 100 psf. Other sections of the FBC,R may allow for potential for smaller HVAC units. Financial institutions finance these two types of dwelling units as single-family homes. It is not until a building has five or more residential units that the financing is a commercial loan. For this reason alone, three-family, and four-family dwelling units should be included in the FBC,R. It is possible to purchase these dwellings with an FHA Loan. Realtors in Florida are also permitted to sell up to four units on a residential license. With proper zoning, three-family and four-family dwelling units can be designed and constructed to be compatible in single-family neighborhoods. Most can be constructed within a 35-foot height limit, common in many parts of the state. Normally, three-family, and four-family dwellings are two, two and one-half or three stories above the grade plane making them compatible with a single-family or two-family home. The footprint of either a three- or a four-family building could be designed and constructed in dimensions of forty feet by sixty feet.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The less restrictive application of a residential code souldlessen the burden on enforcement.

Impact to building and property owners relative to cost of compliance with code

Less expensive construction and sales cost.

Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The design of three- and four-family dwelligs are similar in nature to a duplex. As such the dgree of health, safety and elfare is enhanced by admitting these two dwelling types to the residential code.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The modification is in line with industry standards for financing and sales.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No.
Does not degrade the effectiveness of the code
No.

F11786Text Modification

Where windows are required to provide emergency and rescue and rescue openings in Group R-2 or R-3 occupancies and one-, ~~and~~ two-, three- and four-family *dwellings* and town houses regulated by the *Florida Building Code, Residential,* replacement windows shall be exempt from the requirements of Section 1030.2 and 1030.3 of the *Florida Building Code, Building* and sections R310.2.1, R310.2.2 and R310.2.3 of the *Florida Building Code, Residential provided the replacement window meets the following conditions:*

Page: 1

Mod11786_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Existing Building

95

F12236

Date Submitted	02/17/2025	**Section**	804.2.4	**Proponent**	Jennifer Hatfield
Chapter	8	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), the intent of this modification is to provide consistency in the application of the provisions of automatic sprinkler system.

Rationale

The intent of this modification is to provide consistency in the application of the provisions of automatic sprinkler system. First cleanup is the proper use of the defined term found in Section 202 and Section 903 of the Florida Building Code, Building - “Automatic” Sprinkler Systems. Section 903.4, specific to the sprinkler system supervision and alarms, covers all of the requirements. Instead of listing them again here, it is better to refer to Section 903.4, and if changes occur in the future it will be only in once place in the code.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None, editorial.
Impact to building and property owners relative to cost of compliance with code
None, editorial.
Impact to industry relative to the cost of compliance with code
None, editorial.
Impact to small business relative to the cost of compliance with code
None, editorial.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Ensures sections remain consistent so no confusion.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Ensures sections remain consistent so no confusion and the accurate term is used.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12236Text Modification

804.2.4 Supervision.

Automatic ~~Fire~~ sprinkler systems required by this section shall be ~~supervised by one of the following methods:~~ provided with supervision and alarms in accordance with Section 903.4 of the Florida Building Code, Building.

~~1. Approved central station system in accordance with NFPA 72;~~

~~2. Approved proprietary system in accordance with NFPA 72;~~

~~3. Approved remote station system of the jurisdiction in accordance with NFPA 72; or~~

~~4. When approved by the *code official*, approved local alarm service that will cause the sounding of an alarm in accordance with NFPA 72.~~

~~**Exception:** Supervision is not required for the following:~~

~~1. Underground key or hub gate valves in roadway boxes.~~

~~2. Halogenated extinguishing systems.~~

~~3. Carbon dioxide extinguishing systems.~~

~~4. Dry- and wet-chemical extinguishing systems.~~

~~5. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.~~

Page: 1

Mod12236_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Existing Building

96

F12237

Date Submitted	02/17/2025	**Section**	1012.1.1	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), the intent of this modification is to provide clarification on how to achieve the complete fire separation.

Rationale

The intent of these additional language is to provide clarification on how to achieve the complete fire separation. This modification is consistent with the provisions of Section 508.4 of the Florida Building Code, Building. Further, Section 508.4.4.1 of the Florida Building Code, Building stated that “the required separations shall be fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both”, so as to completely separate adjacent occupancies.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes in that it is a clarification on how to achieve the complete fire separation.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes in that it is a clarification on how to achieve the complete fire separation.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12237Text Modification

1012.1.1 Compliance with Chapter 9.
The requirements of Chapter 9 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 1012.1.1.1 and 1012.1.1.2.

1012.1.1.1 Change of occupancy classification without separation.

Where a portion of an *existing building* is changed to a new occupancy classification or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the Florida Building Code, Building, and that portion is not separated from the remainder of the building with fire barriers or horizontal assemblies; or both having ~~a~~ fire-resistance rating as required in Section 508.4 of the Florida Building Code, Building for the separate occupancy, the entire building shall comply with all of the requirements of Chapter 9 applied throughout the building for the most restrictive occupancy classification in the building and with the requirements of this chapter.

1012.1.1.2 Change of occupancy classification with separation.
Where a portion of an *existing building* is changed to a new occupancy classification or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the Florida Building Code, Building; and that portion is separated from the remainder of the building with fire barriers or horizontal assemblies; or both having ~~a~~ fire-resistance rating as required in Section 508.4 of the Florida Building Code, Building for the separate occupancy, that portion shall comply with all of the requirements of Chapter 9 for the new occupancy classification and with the requirements of this chapter.

Page: 1

Mod12237_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

97

CA11777

Date Submitted	01/18/2025	**Section**	101.1	**Proponent**	Greg Burke
Chapter	1	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

FBCR302 FBCB901.6.1 FBCB901.6.2 FBCB903.3.1.3 FBCB907.6.6 FBCEx505.2 FBCEx505.3 FBCEx702.4 FBCEx702.5 FBCFG101.2

Summary of Modification

Adds three- and four- family dwellings to the scope.

Rationale

Housing and skilled labor is at a crisis point in the United States. Demand is outpacing supply in a critical way. To entice development and local authorities in providing more options for first time buyers or those who are wishing to down-size, the scope change will enable an opportunity for choice, Moving these two dwelling types into the FBC,R allows construction in an equivalent manner to single-, two-family, and townhouses buildings. More cost savings can come in the form of reduced egress requirements. Single exits could be required that would have stairs meet the riser/tread dimensions reduced from the commercial maximum requirement to the residential requirements for treads and risers. In Occupancy Group R2, under the FBC,B live load will be reduced to 40 psf from the commercial requirement of 100 psf. Other sections of the FBC,R may allow for potential for smaller HVAC units. Financial institutions finance these two types of dwelling units as single-family homes. It is not until a building has five or more residential units that the financing is a commercial loan. For this reason alone, three-family, and four-family dwelling units should be included in the FBC,R. It is possible to purchase these dwellings with an FHA Loan. Realtors in Florida are also permitted to sell up to four units on a residential license. With proper zoning, three-family and four-family dwelling units can be designed and constructed to be compatible in single-family neighborhoods. Most can be constructed within a 35-foot height limit, common in many parts of the state. Normally, three-family, and four-family dwellings are two, two and one-half or three stories above the grade plane making them compatible with a single-family or two-family home. The footprint of either a three- or a four-family building could be designed and constructed in dimensions of forty feet by sixty feet.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The less restrictive application of a residential code souldlessen the burden on enforcement.

Impact to building and property owners relative to cost of compliance with code

Less expensive construction and sales cost.

Impact to industry relative to the cost of compliance with code

None

Impact to small business relative to the cost of compliance with code

May provide more opportunity for small developers and contractors.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The design of three- and four-family dwelligs are similar in nature to a duplex. As such the dgree of health, safety and elfare is enhanced by admitting these two dwelling types to the residential code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The modification is in line with industry standards for financing and sales.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No.

Does not degrade the effectiveness of the code

No.

CA11777Text Modification

FBC,B 101.2 Scope.

The provisions of the *Florida Building Code, Residential* shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, removal, and demolition of detached one-, ~~and~~ two-, three- and four- family dwellings and *townhouses* not more than three stories above *grade plane* in height with a separate means of egress and their *accessory structures* not more than three stories above *grade plane* in height.

Page: 1

Mod11777_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

98

F12302

Date Submitted	02/18/2025	**Section**	202	**Proponent**	Shane Gerwig
Chapter	2	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Building 202 Adds additional method to calculate building area. Building Chapter 35 Adds Referenced Standards Residential R202 Adds additional method to calculate building area. Residential Chapter 46 Adds Referenced Standard

Summary of Modification

This modification adds the referenced standard that provides an additional path to calculate building area.

Rationale

This modification provides guidance on calculating building are consistent with industry standards.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
No impact.
Impact to building and property owners relative to cost of compliance with code
No impact.
Impact to industry relative to the cost of compliance with code
No impact. Provides consistency.
Impact to small business relative to the cost of compliance with code
No impact.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The additional language provides for options that allows consistency with industry standards.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The additional language provides for options that allows consistency with industry standards.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Materials, products, methods, or systems of construction are not impacted as this provides for an additional method.

Does not degrade the effectiveness of the code

This modification will not degrade the effectiveness of the code.

F12302Text Modification

SECTION R202
DEFINITIONS

AREA, BUILDING. The area of a building calculated in accordance with ANSI Z765 or ANSI/BOMA Z65.4.

Page: 1

Mod12302_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

99

F11741

Date Submitted	01/13/2025	**Section**	315.1.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	No	**Attachments**	Yes
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

NA

Summary of Modification

This proposal adds requirement for these devices to be listed and labeled, since listed alarms will include a listing mark (label). It also requires CO alarms to be installed in accordance with the listing and the manufacturer's installation instructions.

Rationale

See attached - Overlap

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Overlap
Impact to building and property owners relative to cost of compliance with code
Overlap
Impact to industry relative to the cost of compliance with code
Overlap
Impact to small business relative to the cost of compliance with code
Overlap

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Overlap
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Overlap

Overlap
Does not degrade the effectiveness of the code
Overlap

F11741Text Modification

See attached.

Page: 1

Mod11741_TextOfModification.pdf

F11741Text Modification

2024 IRC

R315.1.1 Listings. Carbon monoxide alarms shall be *listed* and *labeled* in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be *listed* and *labeled* in accordance with UL 2034 and UL 217.

R315.1.2 Installation. Carbon monoxide alarms, and combination carbon monoxide and smoke alarms, shall be installed in accordance with their *listing* and the manufacturer's instructions.

8th Edition (2023) FBC, Residential

R315.1 Carbon monoxide protection. Every separate building or an addition to an existing building for which a permit for new construction is issued and having a fossil-fuel-burning heater or appliance, a fireplace, an attached garage, or other feature, fixture, or element that emits carbon monoxide as byproduct of combustion shall have an operational carbon monoxide alarm installed within 10 feet of each room used for sleeping purposes.

Exception: This section shall not apply to existing buildings that are undergoing alterations or repair unless the alteration is an addition as defined in Section R315.1.3.

R315.1.1 Carbon monoxide alarm. The requirements of Section R315.1 shall be satisfied by providing for one of the following alarm installations:
1. A hard-wired carbon monoxide alarm.
2. A battery-powered carbon monoxide alarm.
3. A hard-wired combination carbon monoxide and smoke alarm.
4. A battery-powered combination carbon monoxide and smoke alarm.

R315.1.2 Combination alarms. Combination smoke/carbon monoxide alarms shall be listed and labeled by a nationally recognized testing laboratory.

R315.1.3 Addition shall mean. An extension or increase in floor area, number of stories or height of a building or structure.

(F11462) (RB124-22 AM) Overlap

Page: 1

Mod_11741_Text_R315.pdf

F11741Rationale

RB124-22

Original Proposal

IRC: R315.1.1, R315.1.2 (New)

Proponents: Jonathan Roberts, UL, UL (jonathan.roberts@ul.com)

2021 International Residential Code

Revise as follows:

R315.1.1 Listings. Carbon monoxide alarms shall be *listed* and *labeled* in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be *listed* and *labeled* in accordance with UL 2034 and UL 217.

Add new text as follows:

R315.1.2 Installation. Carbon monoxide alarms shall be installed in accordance with their*listing* and the manufacturer's instructions.

Reason: This proposal adds requirement for these devices to be listed and labeled, since listed alarms will include a listing mark (label). It also requires CO alarms to be installed in accordance with the listing and the manufacturer's installation instructions. "Listed" and "Labeled" are both defined terms.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Listed carbon monoxide alarms are already identified by a label, and there is no additional cost associated with verifying they are installed in accordance with their listing and the manufacturer's instructions.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

R315.1.2 Installation. Carbon monoxide alarms, and combination carbon monoxide and smoke alarms, shall be installed in accordance with their *listing* and the manufacturer's instructions.

Committee Reason: The modification to Section R315.1.2 added combination carbon monoxide/smoke alarms to the installation requirements. This is consistent with the committee recommendation for RB122-22 and would coordinate with the two types of systems addressed in Section R315.1.1. The committee approved this proposal as modified for consistency with committee's action on RB122-22 and ensure the proper installation of carbon monoxide alarms and combination carbon monoxide/smoke alarms. (Vote: 10-0)

Final Hearing Results

RB124-22 AM

Page: 1

Mod_11741_Rationale_RB124-22 - R15.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

100

F11774

Date Submitted	01/17/2025	**Section**	311.7	**Proponent**	Julie Seraphin
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

1.Stairways not within or serving a buildingporch or deck.Needs clarification. 2.Stairways leading to nonhabitable attics.Delete this entirely or clarify that fixed stairways (vs pulldown stairs or ladders) NOT excepted. 3.Stairways leading to crawl spaces.Deleteor specify what type of stairs

Rationale

The change is required to make fixed stairs to attics, habitable or non-habitable conform to the general stairway requirements. Without this change, builder can build fixed walk-up stairs to storage room over a garage, for instance, without having the headroom clearance, proper width or tread and riser requirements. This status quo will result in an unacceptably unsafe condition for users of those stairs without the code protection. One builder locally built a set of fixed stairs to the attic with a clearance of 5'7 inches. He claimed that because the attic was uninhabitable, as per the 8th Edition changes, that he wasn't required to make the fixed stairs conform to any code. This is obviously an absurd situation that has been created by the current "Exceptions".

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
Impact is greater safety for homeowners and inspectors.
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
There is a definite connection with health safety and welfare of both homeowner and inspector alike,

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by adding definitions and specifying that fixed stairs are different from pulldowns stairs or ladders to attic area.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate

Does not degrade the effectiveness of the code

Improves the effectiveness

F11774Text Modification

1. 1 .Stairways not within or serving a building, porch or deck. An example of a stairway not within or serving a building, porch or deck would be:…….
2. 2. Pull down stairs or ladders leading to nonhabitable attics. Fixed stairs shall meet the full stairway requirement regardless of habitable or non-habitable,.

3.Stairways leading to *crawl spaces*.It is necessary to define the stairway type here. One can't build unsafe steps or stairs to access a crawl space

Page: 1

Mod11774_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

101

F11778

Date Submitted	01/18/2025	**Section**	302.3	**Proponent**	Greg Burke
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Correlation for addition of three- and four- family dwellings to the scope.

Rationale

Housing and skilled labor is at a crisis point in the United States. Demand is outpacing supply in a critical way. To entice development and local authorities in providing more options for first time buyers or those who are wishing to down-size, the scope change will enable an opportunity for choice, Moving these two dwelling types into the FBC,R allows construction in an equivalent manner to single-, two-family, and townhouses buildings. More cost savings can come in the form of reduced egress requirements. Single exits could be required that would have stairs meet the riser/tread dimensions reduced from the commercial maximum requirement to the residential requirements for treads and risers. In Occupancy Group R2, under the FBC,B live load will be reduced to 40 psf from the commercial requirement of 100 psf. Other sections of the FBC,R may allow for potential for smaller HVAC units. Financial institutions finance these two types of dwelling units as single-family homes. It is not until a building has five or more residential units that the financing is a commercial loan. For this reason alone, three-family, and four-family dwelling units should be included in the FBC,R. It is possible to purchase these dwellings with an FHA Loan. Realtors in Florida are also permitted to sell up to four units on a residential license. With proper zoning, three-family and four-family dwelling units can be designed and constructed to be compatible in single-family neighborhoods. Most can be constructed within a 35-foot height limit, common in many parts of the state. Normally, three-family, and four-family dwellings are two, two and one-half or three stories above the grade plane making them compatible with a single-family or two-family home. The footprint of either a three- or a four-family building could be designed and constructed in dimensions of forty feet by sixty feet.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The less restrictive application of a residential code souldlessen the burden on enforcement.

Impact to building and property owners relative to cost of compliance with code

Less expensive construction and sales cost.

Impact to industry relative to the cost of compliance with code

None

Impact to small business relative to the cost of compliance with code

May create more opportunity for small developers, architects, and contractors

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The design of three- and four-family dwelligs are similar in nature to a duplex. As such the dgree of health, safety and elfare is enhanced by admitting these two dwelling types to the residential code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The modification is in line with industry standards for financing and sales.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No.

Does not degrade the effectiveness of the code

No.

F11778Text Modification

Dwelling units in two-, three-, and four-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263, or Section 703.3 of the Florida Building Code, Building. Fire-resistance rated floor/ceiling and wall assemblies shall extend to and be tight against the *exterior wall*, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exceptions:

A fire-resistance rating of ½ hour shall be permitted in buildings equipped throughout with a sprinkler system installed in accordance with NFPA 13.

Wall assemblies need not extend through *attic* spaces where the ceiling is protected by not less than 5/8-inch (15.9mm) Type X gypsum board, an *attic* draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected is protected by not less than ½-inch (12.7mm) gypsum board or equivalent.

Screen enclosure walls of insect screening with maximum of 25-percent solid flexible finishes.

Page: 1

Mod11778_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

102

R11791

Date Submitted	02/06/2025	**Section**	302.2.2	**Proponent**	Aaron Phillips
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

11790, 11792, 11831, 11835, 11836, 11837, 11839, 11840, 11841

Summary of Modification

Properly identify results of ASTM E108 or UL 790 tests as classifications. Clarify that roof assemblies not roof coverings are tested for fire resistance.

Rationale

ASTM E108 and UL 790 fire tests are performed on roof assemblies, not roof coverings, to establish a classification (Class A, B, or C) based on exposure to simulated fire sources originating outside the building. The outcome of these tests is a classification of the roof assembly. In contrast, ASTM E119 or UL 263 tests evaluate the duration for which building elements contain a fire, retain their structural integrity, or exhibit both properties during a predetermined test exposure. The result of these tests is expressed as a fire resistance rating. This proposal adjusts language to clarify the distinction between these important fire tests and to associate the test results properly with a roof assembly instead of a roof covering.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Clarifies an important safety requirement of the code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Clarifies an important safety requirement of the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Improves the effectiveness of the code.

R11791Text Modification

Revise as follows:

R302.2.2 Parapets for townhouses. Parapets constructed in accordance with Section R302.2.3 shall be constructed for *townhouses* as an extension of exterior walls or common walls in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.

2. Where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.

Exception: A parapet is not required in the preceding two cases where the *roof assembly* ~~roof covering~~ complies with a minimum Class C classification ~~rating~~ as tested in accordance with ASTM E108 or UL 790 and the roofing decking or sheathing is of noncombustible materials or *approved* fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of 5/8-inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet (1219 mm) of the common walls.

3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common wall construction from the lower roof to the underside of the higher roof deck shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides.

Page: 1

Mod11791_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

103

F11801

Date Submitted	01/23/2025	**Section**	311.2	**Proponent**	Jalal Farooq
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

R311.2 requires egress doors to be side hinged. The proposed modification would also allow for the use of pivoting doors to qualify as egress doors provided that they maintain the minimum clear width and height requirements as outlined in the code.

Rationale

While a pivot door is technically not “side hinged”, I believe that the intention of R311.2 is to provide minimum clear opening door dimensions for egress doors. A pivot door with minimum clear dimensions equal to those already established in this section of the code is functionally equivalent, and should therefore be considered to be acceptable. The R311.2 commentary explains that a sliding door would not be acceptable for use as an egress door but does not mention pivoting doors.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
None
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, it has a reasonable and substantial connection with the health, safety, and welfare of the general public
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, it strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not degrade the effectiveness of the code

It does not degrade the effectiveness of the code.

F11801Text Modification

R311.2 Egress Door:

Not less than one egress door shall be provided for each dwelling unit. The egress door shall be side-hinged or pivoting, and shall provide a clear width of not less than 32 inches (813 mm) where measured between the face of the door and the stop for side hinged doors or between the pivot point and the door stop for pivot doors, with the door open 90 degrees (1.57 rad). The clear height of the door opening shall be not less than 78 inches (1981 mm) in height measured from the top of the threshold to the bottom of the stop. Other doors shall not be required to comply with these minimum dimensions. Egress doors shall be readily openable from inside the dwelling without the use of a key or special knowledge or effort.

Page: 1

Mod11801_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

104

F11932

Date Submitted	02/15/2025	**Section**	310.3	**Proponent**	Jennifer Hatfield
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Building Code, Section 1030.3.1

Summary of Modification

On behalf of the Fenestration & Glazing Industry Alliance (FGIA), this proposal intends to update two sections in the Residential Code (310.3 and 311.2) to align with the Building Code provisions, as it relates to types of doors.

Rationale

The 2021 IBC updated sections 1010.1.2 and 1010.1.2.1 to add balanced doors to the other common types of swinging doors allowed and used in the means of egress. Pivoted doors were already allowed and listed in the IBC prior to 2021, along with swinging door types. That previous proposal, E42-18, also revised the title of the section to denote it is "egress door types". Those IBC changes were reflected in the 2023 Florida Building Code, Building. This proposal intends to update the corresponding 2023 Florida Residential Code sections with what is in the Building Code. An identical proposal has been submitted to the ICC to ensure residential code sections coordinate with the changes made in the IBC, to make it clear all common types of swinging doors are allowed and used in the means of egress. The reasoning statement for the previous ICC proposal, E42-18 included the fact it appears the intent was always that balanced doors were allowed as a means of egress due to the fact section 1010.1.10.2 of the 2018 IBC provided the following: 2018 IBC 1010.1.10.2 Balanced doors. If balanced doors are used and panic hardware is required, the panic hardware shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side. This proposal also seeks to better align EERO language with that of 1031.4 of the IBC, which allows for swinging doors or a sliding door as a type of EERO. Side-hinged, pivoted and balanced doors are all types of swinging doors. To be consistent with the listing out of all types in Section R311.2 (and Section 1010.1.2 and 1010.1.2.1 of the 2024 IBC), the list of swinging doors are provided in R310.3 as well. A corresponding proposal for the Florida Building Code in Section 1030.3.1 has also been submitted.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Provides consistent terms, which will lessen any possible confusion and time delay that in turn could lessen costs.

Impact to building and property owners relative to cost of compliance with code

No impact on cost.

Impact to industry relative to the cost of compliance with code

No impact on cost.

Impact to small business relative to the cost of compliance with code

No impact on cost.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

It does not.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, provides for consistency of terms.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F11932Text Modification

R310.3 Emergency escape and rescue doors.

Where a door is provided as the required emergency escape and rescue opening, it shall be permitted to be a side-hinged, swinging door, pivoted door, balanced door, or a ~~slider~~ sliding door. Where the opening is below the adjacent grade, it shall be provided with an area well.

R311.2 Egress door types.

Not less than one egress door shall be provided for each *dwelling* unit. The egress door shall be of the side-hinged swinging door, pivoted door or balanced door types, and shall provide a clear width of not less than 32 inches (813 mm) where measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). The clear height of the door opening shall be not less than 78 inches (1981 mm) in height measured from the top of the threshold to the bottom of the stop. Other doors shall not be required to comply with these minimum dimensions. Egress doors shall be readily openable from inside the *dwelling* without the use of a key or special knowledge or effort.

Exception: Buildings that are 400 square feet or less and that are intended for use in conjunction with one- and two- family residences are not subject to the door height and width requirements of this code.

Page: 1

Mod11932_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

105

F12030

Date Submitted	02/12/2025	**Section**	328	**Proponent**	Bryan Holland
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

N/A

Summary of Modification

This proposed modification deletes an exception for ESS installation requirements that was deemed unfavorable to the Electrical TAC and updates spacing/location requirements to align with NFPA 855 and NFPA 70.

Rationale

This proposed modification achieves three objectives. 1. Exception #1 to R328.1 is deleted as the Electrical TAC deemed this permission to be unacceptable. This will ensure all ESS installed for occupancies under the scope of the FBC-R comply with all of R328. 2. R328.3.1 covering ESS spacing is revised by pointing the code user to ESS product listing and manufacturer's installation instructions which is exactly the same documentation required by the current FFPC pointer. 3. R328.4 covering ESS locations has been revised in a similar fashion to R328.3.1 above, permitting the separation distances established by the product listing and manufacturer's installation instructions to be used in lieu of the prescriptive 3-foot measurement. This better aligns the FBC-R requirements for ESS with NFPA 855 and NFPA 70. It should be noted that R328.4(4) and R328.8 have already been incorporated into the 9th edition by previous Commission action.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
This proposed modification will improve the consistent enforcement of the code by the local entity.
Impact to building and property owners relative to cost of compliance with code
This proposed modification will not change the cost of compliance with code.
Impact to industry relative to the cost of compliance with code
This proposed modification will not change the cost of compliance with code.
Impact to small business relative to the cost of compliance with code
This proposed modification will not change the cost of compliance with code.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposed modification will improve the health, safety, and welfare of the general public by ensuring ESS is properly installed in accordance with the code, product safety certification standards, and the manufacturer's installation instructions.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposed modification improves the code by correlating requirements with NFPA 855 and NFPA 70.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposed modification does not discriminate against materials, products, methods, or systems of construction.

Does not degrade the effectiveness of the code

This proposed modification improves the effectiveness of the code.

F12030Text Modification

R328.1 General. Energy storage systems (ESS) shall comply with the provisions of this section.

Exceptions:

~~1. ESS listed and labeled in accordance with UL 9540 and marked "For use in residential dwelling units" where installed in accordance with the manufacturer's instructions and NFPA 70.~~

~~2.~~ 1. ESS less than 1 kWh (3.6 megajoules).

R328.3.1 Spacing. Individual units shall be separated from each other by not less than 3 feet (914 mm) except where other ~~smaller~~ separation distances are specified by the ESS listing and the manufacturer's installation instructions. ~~documented to be adequate based on large-scale fire testing complying with the Florida Fire Prevention Code.~~

R328.4 Locations. ESS shall be installed only in the following locations:

1. Detached garages and detached accessory structures.
2. Attached garages separated from the dwelling unit living space in accordance with Section R302.6.
3. Outdoors or on the exterior side of exterior walls located not less than 3 feet (914 mm) from doors and windows directly entering the dwelling unit, except where smaller separation distances are permitted by the UL 9540 listing and manufacturer's installation instructions.
4. Enclosed utility closets, basements, storage or utility spaces within dwelling units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than 5/8-inch (15.9 mm) Type X gypsum wallboard. ESS shall not be installed in sleeping rooms, or closets or spaces opening directly into sleeping rooms. Openings into the dwelling shall be equipped with solid wood doors not less than 13/8 inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 13/8 inches (35 mm) in thickness, or doors with a 20-minute fire protection rating. Doors shall be self-latching and equipped with a self-closing or an automatic-closing device. Penetrations through the required gypsum wallboard into the dwelling shall be protected as required by Section R302.11, Item 4.

Page: 1

Mod12030_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

106

F12188

Date Submitted	02/16/2025	**Section**	311.3	**Proponent**	Joseph Belcher
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Exception for landings at screen enclosure doors to the exterior.

Rationale

The requirement to add a landing at an exterior door from a Category I or a Category II sunroom or a screen enclosure is an unnecessary cost of $150 to $350 serving no purpose. These structures are uninhabited and unconditioned. If the slab served just a patio or a pool deck and there was no enclosure the step off the slab could be into grass or dirt. The requirement for a landing is an unnecessary cost, serving no purpose.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None.
Impact to building and property owners relative to cost of compliance with code
Savings of $150 to $350.
Impact to industry relative to the cost of compliance with code
Savings of $150 to $350.
Impact to small business relative to the cost of compliance with code
Savings of $150 to $350.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Improves the general welfare by eliminating unnecessary project costs.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves the code by eliminating unnecessary project costs.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

The change does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities.

Does not degrade the effectiveness of the code

The proposed change does not degrade the effectiveness of the code and improves the effectiveness of the code.

F12188Text Modification

a landing or floor on each side of each exterior door. The width of each landing shall be not less than the door served. Every landing shall have a dimension of not less than 36 inches (914 mm) measured in the direction of travel. The slope at exterior landings shall not exceed 1/4 unit vertical in 12 units horizontal (2 percent).

Exception:

1. Exterior balconies less than 60 square feet (5.6 m^2) and only *accessed* from a door are permitted to have a landing less than 36 inches (914 mm) measured in the direction of travel.

2. Exterior doors from Category I and II sunrooms opening onto grass or soil.at the same elevation as the slab

3. Exterior doors from screen enclosures opening onto grass or soil at the same elevation as the slab.

Page: 1

Mod12188_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

107

F12190

Date Submitted	02/16/2025	**Section**	314.3	**Proponent**	Jennifer Hatfield
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification provides for smoke alarms in attached garages.

Rationale

This proposal addresses the increased hazards of lithium-ion batteries for lawnmowers, e-bikes, e-scooters, power tools, etc., stored in garages. A smoke alarm in the garage due to the increased use of these products is therefore necessary.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
The cost of the smoke alarm if one was not already being put in.
Impact to industry relative to the cost of compliance with code
None
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes, it provides for increased safety and welfare for homeowners.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes, it strengthens the codes by providing for a smoke alarm in an attached garage.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12190Text Modification

R314.3 Location.
Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements and habitable attics and not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
4. Smoke alarms shall be installed not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by Section R314.3.
5. In an attached garage. A heat detector, *listed* and interconnected to the smoke alarms, shall be interconnected to the smoke alarms, shall be installed in locations with dwelling units and attached garages where smoke alarms cannot be installed based on their *listings*.

Page: 1

Mod12190_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

108

F12230

Date Submitted	02/17/2025	**Section**	302.2.2	**Proponent**	Jennifer Hatfield
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), the intent of this additional language is to provide consistency with the fire separation distance and opening limitation requirements throughout the Residential and Building volumes of the FBC.

Rationale

This is editorial. The intent of this addition language is to provide consistency with the fire separation distance and opening limitation requirements throughout the Residential and Building volumes of FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None, as editorial.
Impact to building and property owners relative to cost of compliance with code
None, as editorial.
Impact to industry relative to the cost of compliance with code
None, as editorial.
Impact to small business relative to the cost of compliance with code
None, as editorial.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes as it provides for consistent requirements.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes as it provides for consistent requirements.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12230Text Modification

R302.2.2 Parapets for townhouses.

Parapets constructed in accordance with Section R302.2.3 shall be constructed for *townhouses* as an extension of exterior walls or common walls in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.
2. Where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.
   Exception: A parapet is not required in the preceding two cases where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof decking or sheathing is of noncombustible materials or *approved* fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of $^{5}/_{8}$-inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet (1219 mm) of the common walls.
3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common wall construction from the lower roof to the underside of the higher roof deck shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides. Openings shall not be permitted in the wall.

Page: 1

Mod12230_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

109

F12231

Date Submitted	02/17/2025	**Section**	302.3	**Proponent**	Jennifer Hatfield
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), the intent of this modification is to clarify the type of sprinkler system needed to reduce the fire-resistance rating from 1 hr to ½ hr. and refer to the appropriate NFPA standards and Plumbing Code section.

Rationale

The intent is to clarify the type of sprinkler system needed to reduce the fire-resistance rating from 1 hr to ½ hr. and refer to the appropriate NFPA standards and Plumbing Code section.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None
Impact to building and property owners relative to cost of compliance with code
Will decrease the cost of construction.
Impact to industry relative to the cost of compliance with code
Will decrease the cost of construction.
Impact to small business relative to the cost of compliance with code
None

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Yes as ensures appropriate standard references.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes as ensures appropriate standard references.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

F12231Text Modification

R302.3 Two-family dwellings.

Dwelling units in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.3 of the Florida Building Code, Building. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the *exterior wall*, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exceptions:

1. A fire-resistance rating of $^{1}/_{2}$ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13, NFPA 13R, NFPA 13D, or Section P2904.
2. Wall assemblies need not extend through *attic* spaces where the ceiling is protected by not less than $^{5}/_{8}$-inch (15.9 mm) Type X gypsum board, an *attic* draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected by not less than $^{1}/_{2}$-inch (12.7 mm) gypsum board or equivalent.
3. Screen enclosure walls of insect screening with a maximum of 25-percent solid flexible finishes.

Page: 1

Mod12231_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

110

F12232

Date Submitted	02/17/2025	**Section**	302.10.5	**Proponent**	Jennifer Hatfield
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification is editorial and intended to simplify the code.

Rationale

There is no reason to have a separate and independent code sections to tell readers which test applies to the same materials used for exposed insulation. This simplifies the code.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None, editorial.
Impact to building and property owners relative to cost of compliance with code
None, editorial.
Impact to industry relative to the cost of compliance with code
None, editorial.
Impact to small business relative to the cost of compliance with code
None, editorial.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
None, editorial.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Yes as simplifies two sections into one.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
It does not.

Does not degrade the effectiveness of the code

It does not.

F12232Text Modification

R302.10.4 Exposed attic insulation.
Exposed insulation materials installed on attic floors shall have a critical radiant flux of not less than 0.12 watt per square centimeter when tested in accordance with ASTM E970.

~~**R302.10.5 Testing.**~~
~~Tests for critical radiant flux shall be made in accordance with ASTM E970.~~

Page: 1

Mod12232_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

111

F12356

Date Submitted	02/18/2025	**Section**	302.1	**Proponent**	Alexander Haldeman
Chapter	3	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

addition of prescriptive materials based similar or better surface burning characteristics

Rationale

Just as with fire-retardant-treated wood, a material which by definition exhibits reduced surface burning characteristics and resists propagation of fire; (1) where fireblocking is provided and (2) vent openings that communicate with the attic are not installed in the overhang or gable wall; materials which resist propagation of fire satisfy the intent of these tables. Fiber-cement products are required to have a flame-spread index of zero, per ASTM standards referenced within this code. Further outlining that fiber-cement shall also be noncombustible, ensures equal-to-or-greater performance to existing solutions while offering more choices and material availability to users. an example of this ASTM mandatory supplementary requirement can be seen in attached PDF, screenshot taken from ASTM C1186

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
This will have no impact on code enforcement
Impact to building and property owners relative to cost of compliance with code
No cost impact, as no new requirements are being added; this will offer additional options to code users.
Impact to industry relative to the cost of compliance with code
No cost impact, as no new requirements are being added; this will offer additional options to code users.
Impact to small business relative to the cost of compliance with code
No cost impact, as no new requirements are being added; this will offer additional options to code users.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Allowing use of materials with equal-to or better physical properties will not negatively impact health, safety or welfare.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposal improves the code by allowing better products to be used in construction.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

this proposal does not eliminate accepted options or mandate new requirements.

Does not degrade the effectiveness of the code

this does not degrade the efficiency of code

F12356Text Modification

TABLE R302.1

EXTERIOR WALLS

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E119 or UL 263 with exposure from the outside or calculated per Florida Building Code, Building	0 feet
	Not fire-resistance rated	0 hours	3 feet[a]
Projections	Not allowed	N/A	< 2 feet
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood[b, c], or *noncombustible* fiber-cement[b, c]	2 feet[a]
	Not fire-resistance rated	0 hours	3 feet
Openings in walls	Not allowed	N/A	< 3 feet
	Unlimited	0 hours	3 feet[a]
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet[a]

For SI: 1 foot = 304.8 mm.

N/A = Not Applicable.

1. a.For residential subdivisions where all dwellings are equipped throughout with an automatic sprinkler system installed in accordance with Section P2904, the fire separation distance for nonrated exterior walls and rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.

2. b.The roof eave fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave if fireblocking is provided from the wall top plate to the underside of the roof sheathing.

3. c.The roof eave fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave provided that gable vent openings are not installed.

Page: 1

Mod12356_TextOfModification.pdf

F12356Rationale

S6. *Surface Burning Characteristics*—Fiber cement sheets of ¼ in. (6 mm) shall have a reported flame spread index of 0 and a smoke developed index of not more than 5, when tested in accordance with Test Method E84. Sheets of thickness greater than ¼ in. (6 mm) shall meet this specification or shall be formed at ¼ in. (6 mm) thickness with the same formulation for test purposes.

Page: 1

Mod_12356_Rationale_flame spread requirements.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 112**

Total Mods for report: 112

Sub Code: Residential

112

F12303

Date Submitted	02/18/2025	**Section**	46	**Proponent**	Shane Gerwig
Chapter	2712	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Building 202 Adds additional method to calculate building area. Building Chapter 35 Adds Referenced Standards Residential R202 Adds additional method to calculate building area. Residential Chapter 46 Adds Referenced Standard

Summary of Modification

This modification adds the referenced standard that provides an additional path to calculate building area.

Rationale

This modification provides guidance on calculating building area consistent with industry standards.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
No impact.
Impact to building and property owners relative to cost of compliance with code
No impact.
Impact to industry relative to the cost of compliance with code
No impact. Provides consistency.
Impact to small business relative to the cost of compliance with code
No impact.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
The additional language provides for options that allows consistency with industry standards.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
The additional language provides for options that allows consistency with industry standards.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Materials, products, methods, or systems of construction are not impacted as this provides for an additional method.

Does not degrade the effectiveness of the code

This modification will not degrade the effectiveness of the code.

F12303 Text Modification

CHAPTER 46
REFERENCED STANDARDS

Add the following standards below:

BOMA Building Owners and Managers Association International

1101 15th Street NW

Suite 800

Washington, DC 20005

ANSI/BOMA Z65.4-2023 Multi-Family and Hospitality Properties Standard Methods of Measurement..... R202

HIRL Home Innovation Research Labs

400 Prince Georges Blvd.

Upper Marlboro, MD 20774

ANSI Z765-2021 Square Footage Method for Calculating: American National Standard for Single-Family Residential Buildings...R202

Page: 1

Mod12303_TextOfModification.pdf