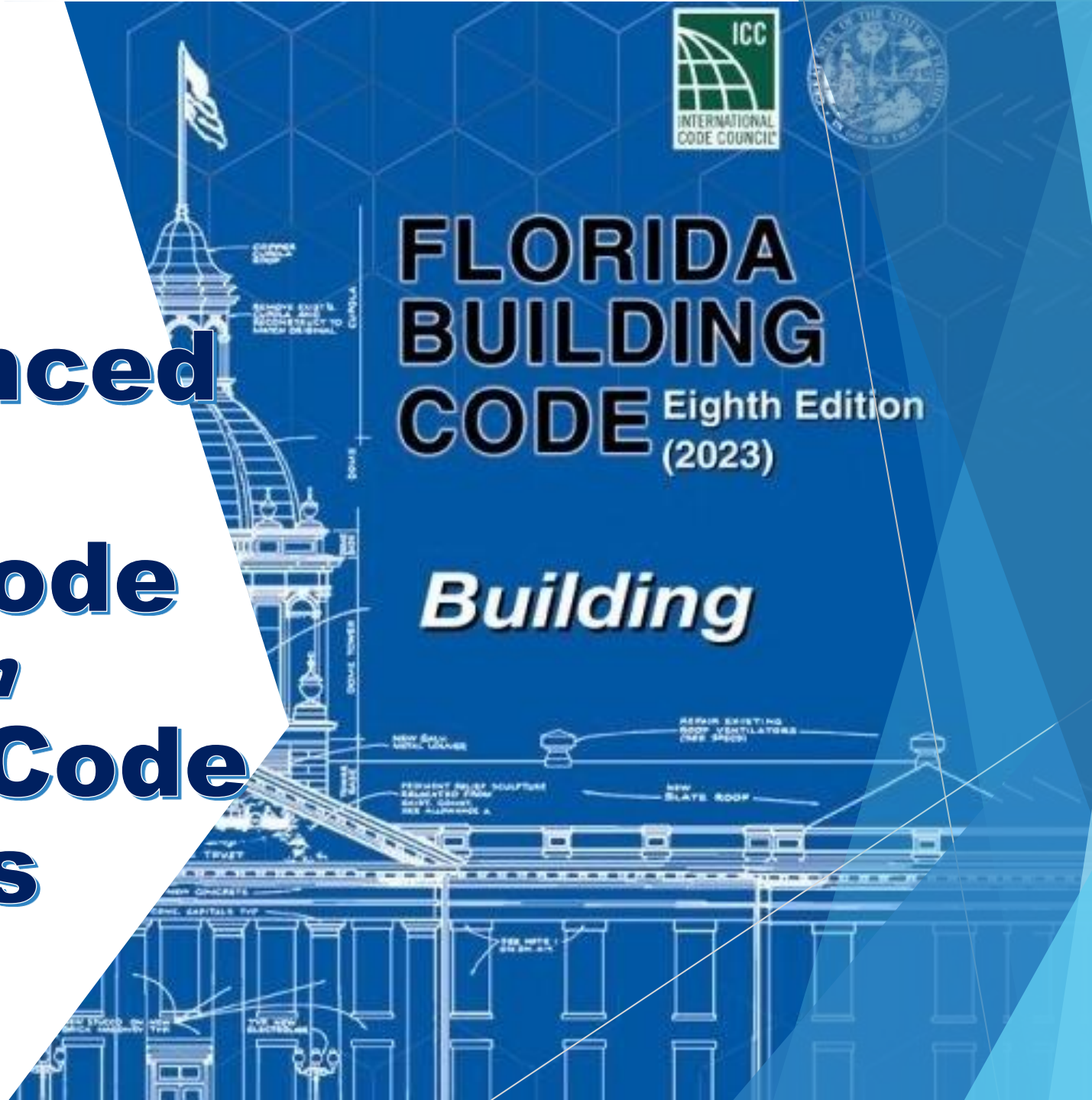
1 EXAM PREP
AMERICA'S #1 CONTRACTING SCHOOL

2023 Advanced Florida Building Code

8th Edition

Significant Code Changes



2023 Florida Building Code 8th Edition

The Florida Building Codes are adopted statewide with mandatory enforcement through the Department of Business and Professional Regulation (DBPR). The Florida Building Commission is the code amending agency. There is a mechanism for adoption of local technical amendments provided they are more restrictive.

The Florida Building Code can be viewed at **www.floridabuilding.org**

2023 Advanced FBC 8th Edition Significant Code Changes

Course Purpose

This course will provide contractors with practical information on the significant code changes from the 2020 Florida Building Code – 7th Edition to the 2023 Advanced Florida Building Code – 8th Edition.

- Includes Florida Building Code specific changes

Upon completion of this course, participants will understand the changes made to the 2023 Advanced Florida Building Code – 8th Edition including but not limited to the definitions, requirements of use and occupancies, fire protection, fire protection systems, means of egress, exterior walls, roofing underlayment, risk categories of buildings, structural design, wind and tornado loads.

Chapter 2
Definitions

Chapter 2: Definitions

- **Change of Occupancy:**

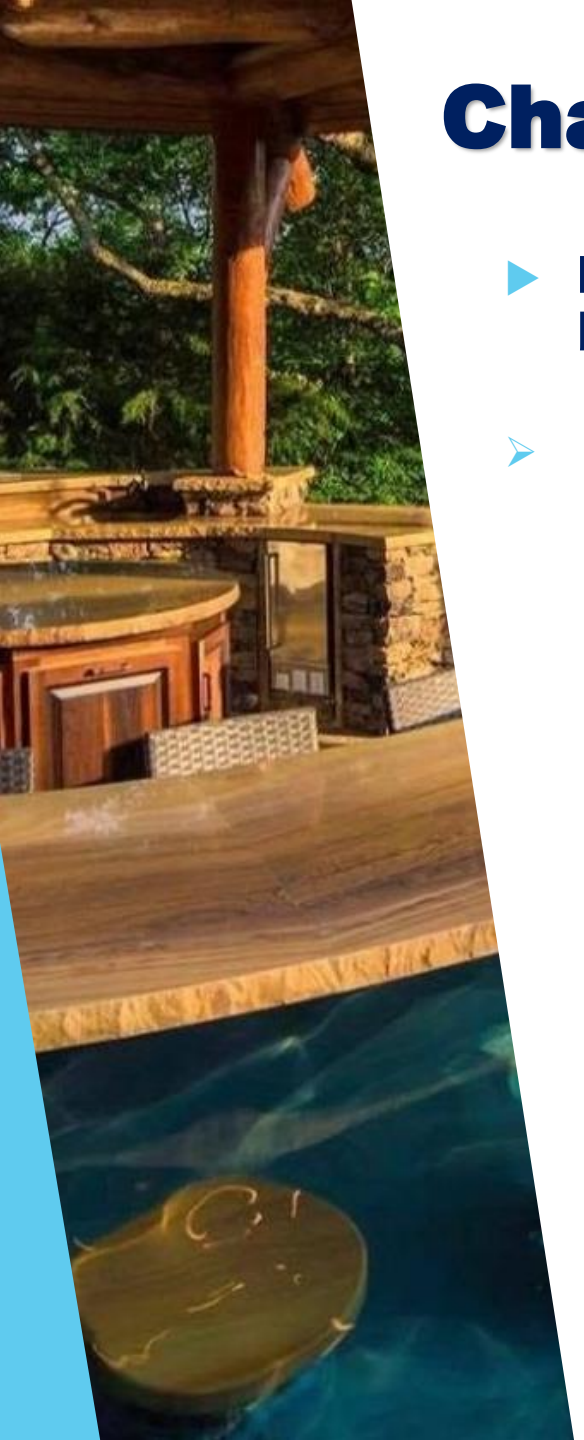
  The definition was revised to address conditions where no occupancy classification changes occur. A change of occupancy, as defined by the FBC, no longer applies to any change in occupancy classification.

- **Code Excerpt:**

  CHANGE OF OCCUPANCY. Either of the following shall be considered a change in occupancy where this code requires a greater degree of safety, accessibility, structural strength, fire protection, means of egress, ventilation or sanitation than is existing in the current building and structure, and one of the following occurs:

  1. Any change in the occupancy classification of a building or structure.
  2. Any change in the purpose of, or a change in level of activity within, a building or structure.

Chapter 4
Special Detailed Requirements Based on Use and Occupancy



Chapter 4: Use and Occupancy

- **New construction criteria has been added for swim-up bars.**

- **Code Excerpt:**

  454.1.9.9 Swim-up bars. Swim-up bars shall comply with the requirements of Sections 454.1.9.9.1 through 454.1.9.9.9.

  454.1.9.9.1 Swim-up bars are only permitted at transient public lodging establishments licensed under s. 509.013(4)(a)1, *Florida Statutes,* or at a theme park or entertainment complex as defined in s. 509.013(9), F.S.

  454.1.9.9.2 A swim-up bar shall be constructed in accordance with the applicable provisions of the code and within the limits of sound engineering practice.

  Continued

Chapter 4: Use and Occupancy

454.1.9.9.2 The maximum pool depth shall not exceed 54 inches (1372 mm). The disinfection equipment shall be capable of feeding 12mg/L of halogen to the continuous recirculation flow of the filtration system. Attendants or lifeguards shall be provided in accordance with a safety/lifeguard plan approved by the Department of Heath.

454.1.9.9.3 A swim-up bar shall be equipped with a recirculation system which provides for a maximum time of 2 hours for turnover of the entire pool water volume. Swim-up bar water quality shall be continuously sustained in accordance with Department of Health (DOH) Rule 64E-9.004, *Florida Administrative Code*, by the installation and use of an automated controller with chemical sensing probes for disinfection and pH control.

454.1.9.9.4 Signage complying with Section 454.1.2.3.5 must be posted to inform patrons that the public swimming pool has a swim-up bar that provides food and beverages, that spillages should be reported to staff for rapid cleanup, and that consumption of alcoholic beverages may cause drowsiness.

Chapter 4: Use and Occupancy

454.1.9.9.5 If the bar or counter is built into the edge of the pool, pool access complying with Section 454.1.2.5 shall be provided at both ends of the bar. A deck complying with Section 454.1.3.1 shall be provided, except, up to 50 percent of the pool perimeter may be obstructed by the bar. Gutter or skimmers are not required at or under the bar counter, however, they are required at the rest of the pool. An automatic water level controller shall be provided, and an overfill waste line with air gap shall be provided.

454.1.9.9.6 A smooth, easily cleanable poolside surface must be provided for patrons to place their food and beverage containers upon.

454.1.9.9.7 A swim-up bar may be physically combined or connected with other pool types, however, food and drink must be permitted over the entire body of water and the requirements of Section 454.1.9.9 shall apply to the entire water volume. A swim-up bar's water must not mix with any body of water that is not a swim-up bar and does not allow the consumption of food and beverages.

Chapter 4: Use and Occupancy

- **Quiz Question #1**

  As per section 454.1.9.9 Swim-up bars, the maximum depth of a pool with a swim-up bar shall not exceed _____ inches.

  A. 36

  B. 48

  C. 54

  D. 70

  Answer is C, 54 inches

Chapter 9
Fire Protection Systems

Chapter 9: Fire Protection Systems

- This is a new section requiring a manual fire alarm system that activates an occupant notification system to be installed in Group S public and self-storage three stories or greater in height for interior corridors and interior common areas.

Group 907.2.25 Group S A manual fire alarm that activates the occupant notification system in accordance with Section 907.5 be installed in Group S public and self-storage occupancies three stories or greater in height for interior corridors and interior common areas. Visible notification appliances are not required within storage units.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

Chapter 9: Fire Protection Systems

- **Quiz Question #2**

  As per section 907.2.25 Group S, manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system.

  A. True

  B. False

Answer is A, True

Chapter 10
Means of Egress

Chapter 10: Means of Egress

- Exception 2 has been revised to specifically permit thresholds at exterior doors of dwelling units or sleeping to be at the height necessary to comply with the water resistance requirements of Section 1709.5. Table 1010.1.7, which specified maximum differences between exterior and interior floor levels, has been deleted.

- **Code Excerpt:**

  1010.1.6 Thresholds Thresholds at doorways shall not exceed ¾ inch (19.1 mm) in height above the finished floor or landing for sliding doors serving *dwelling units* or ½ inch (12.7 mm) above the finished floor or landing for other doors. Raised thresholds and floor level changes greater than ¼ inch (6.4 mm) at doorways shall be beveled with a slope not greater than one vertical in two units horizontal (50-percent slope).

Continued

Chapter 10: Means of Egress

- **Exceptions**:

1. In occupancy Group R-2 or R-3, threshold heights for sliding and side-hinged exterior doors shall be permitted to be up to ¾ inches (19.1 mm) in height if all of the following apply:

    1.1 The door is not part of the required *means of egress*.

    1.2 The door is not part of an *accessible route* as required by Chapter 11.

2. For exterior doors serving dwelling units, or sleeping units, thresholds at doorways shall be allowed at a height necessary to comply with the water resistance requirements of Section 1709.5.

Chapter 10: Means of Egress

- **Quiz Question #3**

  As per section 1010.1.6 Thresholds, thresholds at doorways shall not exceed _____ inch in height above the finished floor or landing for sliding glass doors serving dwelling units.

  A. 1/4
  B. 1/2
  C. 3/4
  D. 7/8

  Answer is C, 3/4

Chapter 14
Exterior Walls

Chapter 14: Exterior Walls

- **1405.14.2 Accessories** is a new section establishing criteria for vinyl siding to be installed with a starter strip and secured with utility trim and snap locks.

- **Code Excerpt:**

  1405.14.2 Accessories Accessories must be installed in accordance with the approved manufacturer's instructions.

  1405.14.2.1 Starter strip Horizontal siding shall be installed with a starter strip at the initial course at any location.

  1405.14.2.2 Utility trim Under windows, and at top of walls, utility trim shall be used with snap locks.

Chapter 14: Exterior Walls

- **1410 Soffits and Fascias at Roof Overhangs** This new section was added to provide design and construction requirements for common soffit materials with requirements similar to the FBC Residential.
  - Two new figures have been added to depict proper attachment of vinyl soffit panels to resist wind loads.
  - The span of vinyl soffit panels is now limited to 12 inches.
  - Material requirements are specified for vinyl, fiber-cement, and hardboard soffit panels.
  - A new prescriptive option for wood structural panel soffits is provided for design wind pressures up to 90 psf.
  - New attachment requirements for aluminum fascias have also been added.

- **Code Excerpt:**

  1410.1 General. Soffits and fascias at roof overhangs shall be designed and constructed in accordance with the applicable provisions of this sections.

Chapter 14: Exterior Walls

- **Code Excerpt:**

1410.2 General wind requirements. Soffits and fascias shall be capable of resisting the component and cladding loads for walls determined in accordance with Chapter 16 using an effective wind area of 10 square feet (.093 m^2).

1410.3 Vinyl and aluminum soffit panels. Vinyl and aluminum soffit panels shall comply with Section 1410.2 and shall be installed using fasteners specified by the manufacturer and shall be fastened at both ends to a supporting component such as a nailing strip, fascia or subfascia component in accordance with Figure 1410.3.1(1). Where the unsupported span of soffit panels is greater than 12 inches (406 mm), intermediate nailing strips shall be provided in accordance with Figure 1410.3.1(2) unless a larger span is permitted in accordance with the manufacturer's product approval specifications and limitations of use. Vinyl and aluminum sofit panels shall be installed in accordance with the manufacturer's product approval and limitations of use. Fasteners shall be corrosion resistant. Fascias shall comply with Section 1410.7 and the manufacturer's product approval specification and limitations of use. In the HVHZ, vinyl and aluminum soffit panels shall also comply with TAS 202 and TAS 203.

Chapter 14: Exterior Walls

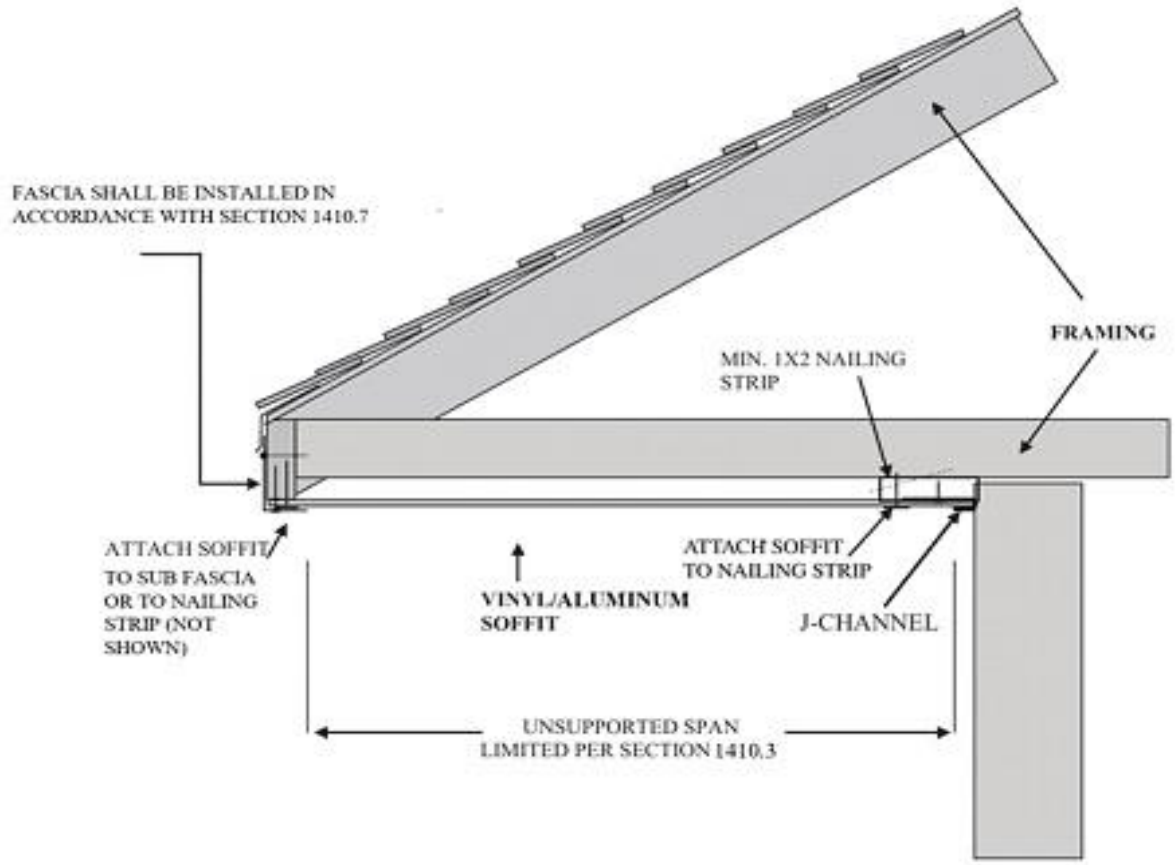


Figure 1410.3(1) Typical Single-Span Vinyl or Aluminum Soffit Panel Support

Chapter 14: Exterior Walls

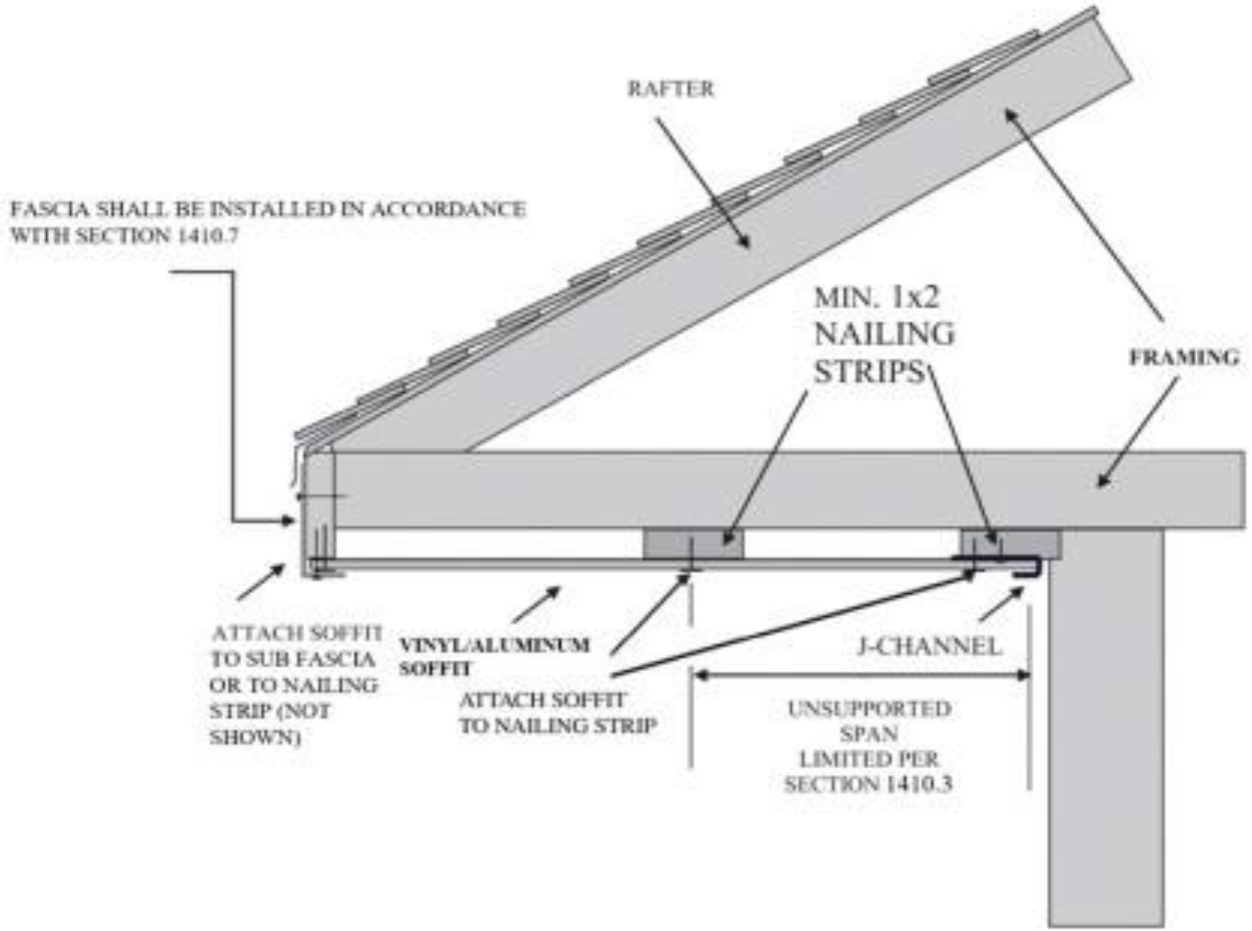


Figure 1410.3(2) Typical Multi-Span Vinyl or Aluminum Soffit Panel Support

Chapter 14: Exterior Walls

1410.4 Fiber-cement soffit panels. Fiber-cement soffit panels shall comply with Section 1410.2 and shall be a minimum of ¼ inch (6.4 mm) in thickness and comply with the requirements of ASTM C1186, Type A, minimum Grade II or ISO 8336, Category A, minimum Class 2. Panel joints shall occur over framing or over wood structural panel sheathing. Soffit panels shall be installed with spans and fasteners in accordance with the manufacturer's product approval specification and limitations of use. Fasteners shall be corrosion resistant. In the HVHZ, fiber-cement soffit panels shall also comply with TAS 202 and TAS 203.

1410.5 Hardboard soffit panels. Hardboard soffit panels shall comply with Section 1410.2 and shall not be less than 7/16 inch (11.11 mm) in thickness and fastened to framing or nailing strips to meet the required design wind pressures. Where the design wind pressure is 30 psf (1.44kPa) and less, hardboard soffit panels are permitted to be attached to wood framing with 2 ½ inch by 0.113 inch (64 mm by 2.9 mm) siding nails spaced not more than 6 inches (152 mm) on center at panel edges and 12 inches (305 mm) on center at intermediate supports.

Chapter 14: Exterior Walls

1410.5 Hardboard soffit panels, continued Where the design wind pressure is greater than 30 psf (1.44 kPa), hardboard soffit panels shall be installed in accordance with the manufacturer's product approval specifications and limitations of use. Fasteners shall be corrosion resistant. In the HVHZ, hardboard soffit panels shall also comply with TAS 202 and TAS 203.

1410.6 Wood structural panel soffit. Wood structural panel soffits shall comply with Section 1410.2 and shall have a minimum panel performance category of 3/8. Fasteners shall be corrosion resistant. Alternatively, wood structural panel soffits are permitted to be attached to framing in accordance with Table 1410.6.

1410.7 Aluminum fascia. Aluminum fascia shall have a minimum thickness of 0.019 inches and be installed per the manufacturer's instructions and this code. Fasteners shall be aluminum or stainless steel. Aluminum fascia shall be attached in accordance with Section 1410.7.1, 1410.7.2 or 1410.7.3. The drip edge shall comply with 1507.2.9.3, and the thickness of the drip edge shall be in accordance with Table 1503.2.

Chapter 14: Exterior Walls

Table 1410.6 - Prescriptive Alternate for Wood Structural Panel Soffit

MAXIMUM DESIGN PRESSURE (- or + psf)	MINIMUM PANEL SPAN RATING	MINIMUM PANEL PERFORMANCE CATEGORY	NAIL TYPE AND SIZE (inches)	FASTENER[a] SPACING ALONG EDGES AND INTERMEDIATE SUPPORTS (inches)	
				GALVANIZED STEEL	STAINLESS STEEL
30	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	6f	4
40	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	6	4
50	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	4	4
			8d common (21/2 × 0.131 × 0.281 head diameter)	6	6
60	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	4	3
			8d common (21/2 × 0.131 × 0.281 head diameter)	6	4
70	24/16	7/16	8d common (21/2 × 0.131 × 0.281 head diameter)	4	4
			10d box (3 × 0.128 × 0.312 head diameter)	6	4
80	24/16	7/16	8d common (21/2 × 0.131 × 0.281 head diameter)	4	4
			10d box (3 × 0.128 × 0.312 head diameter)	6	4
90	32/16	15/32	8d common (21/2 × 0.131 × 0.281 head diameter)	4	3
			10d box (3 × 0.128 × 0.312 head diameter)	6	4

For SI: 1 inch = 25.4 mm, 1 foot = 304.5 mm, 1 pound per square foot = 0.0479 kW/m2.

a. Fasteners shall comply with Section 1410.6.
b. Maximum spacing of soffit framing members shall not exceed 24 inches.
c. Wood structural panels shall be of an exterior exposure grade.
d. Wood structural panels shall be installed with strength axis perpendicular to supports with a minimum of two continuous spans.
e. Wood structural panels shall be attached to soffit framing members with specific gravity of at least 0.42. Framing members shall be minimum 2 × 3 nominal with the larger dimension in the cross section aligning with the length of fasteners to provide sufficient embedment depths.
f. Spacing at intermediate supports is permitted to be 12 inches on center.

Chapter 14: Exterior Walls

1410.7.1 Fascia installation where the design wind pressure is 30 psf or less. Where the design wind pressure is 30 psf (1.44 kPa) or less, aluminum fascia shall be attached as follows:

1. Finish nails shall be provided in the return leg (1 ¼” x 0.057” x 0.177” head diameter) spaced a maximum of 24 inches (610 mm) on center.
2. The fascia shall be inserted under the drip edge with not less than half the height of the drip edge or 1 inch (25 mm), whichever is greater, of the fascia material covered by the drip edge. One finish nail shall be centered in the face of the fascia from each end of the fascia material section located no more than 1 inch below the drip edge.

1410.7.2 Fascia installation where the design wind pressure exceeds 30 psf but is 60 psf or less. Where the design wind pressure exceeds 30 psf (1.44 kPa) but is 60 psf (2.88 kPa) or less, aluminum fascia shall be attached in accordance with Section 1410.7.2.1 or 1410.7.2.2.

Chapter 14: Exterior Walls

1410.7.2.1. Where the height of the fascia from the top of the roof sheathing to the bottom of the sub-fascia plus any thickness of soffit material below the sub-fascia is less than or equal to 6.5 inches (165 mm) or less, aluminum fascia shall be attached as follows:

1. Finish nails shall be provided in the return leg (1 ¼” x 0.057” x 0.177” head diameter) spaced a maximum of 24 inches (610 mm) on center.
2. The fascia shall be inserted under the drip edge with not less than half the height of the drip edge or 1 inch (25 mm), whichever is greater, of the fascia material covered by the drip edge. One finish nail shall be centered in the face of the fascia from each end of the fascia material section located no more than 1 inch below the drip edge.

1410.7.2.2. Where the height of the fascia from the top of the roof sheathing to the bottom of the sub-fascia plus any thickness of soffit material below the sub-fascia is greater than 6.5 inches (165 mm), the top edge of the fascia shall be secured using utility trim installed beneath the drip edge with snap locks punched into the fascia spaced no more than 6 inches (152 mm) on center.

Chapter 14: Exterior Walls

1410.7.3 Fascia installation where the design wind pressure exceeds 60 psf. Where the design wind pressure is greater than 60 psf (2.88kPa), aluminum fascia shall be attached in accordance with Section 1410.7.3.1 or 1410.7.3.2.

1410.7.3.1. Where the height of the fascia from the top of the roof sheathing to the bottom of the sub-fascia plus any thickness of soffit material below the sub-fascia is less than or equal to 4.5 inches (114 mm) or less aluminum fascia shall be attached as follows:

1. Finish nails shall be provided in the return leg (1 ¼" x 0.057" x 0.177" head diameter) spaced a maximum of 16 inches (610 mm) on center.
2. The fascia shall be inserted under the drip edge with not less than half the height of the drip edge or 1 inch (25 mm), whichever is greater, of the fascia material covered by the drip edge. One finish nail shall be centered in the face of the fascia from each end of the fascia material section located no more than 1 inch below the drip edge.

Chapter 14: Exterior Walls

1410.7.3.2. Where the height of the fascia from the top of the roof sheathing to the bottom of the sub-fascia plus any thickness of soffit material below the sub-fascia is greater than 4.5 inches (114 mm), the top edge of the fascia shall be secured using utility trim installed beneath the drip edge with snap locks punched into the fascia spaced no more than 6 inches (152 mm) on center.

1410.7.4. Corners on hip roofs. Fascia shall be bend around corners and extend at least 12 inches (305 mm) beyond the corner. The next fascia material section shall overlap the extension a minimum of 3 inches (76 mm) and be fastened through the return leg of the overlap.

1410.7.5. Corners on gable roofs. Fascia shall be wrapped (tabbed) around and extend at least 1 inch (25 mm) beyond the corner. The gable fascia material section shall overlap the tab and be fastened through the fascia cover and the tab at the end with two face nails (1 1/4” x 0.057” x 0.177” head diameter) for a 2 x 4-inch sub-fascia and three face nails for 2 x 6-inch and greater sub fascia.

Chapter 14: Exterior Walls

- **Quiz Question #4**

  As per section 1410.2 General wind requirements, soffits and fascias shall be capable of resisting loads for walls using an effective wind area of _____ square feet.

  A. 5

  B. 10

  C. 12

  D. 15

  Answer is B, 10 square feet

Chapter 14: Exterior Walls

- **Quiz Question #5**

  As per section 1410.4 Fiber-cement soffit panels, fiber-cement soffit panels shall be a minimum of _____ inch (6.4 mm) in thickness.

  A. 1/4
  B. 1/2
  C. 3/4
  D. 7/8

  Answer is A, ¼ inch

Chapter 14: Exterior Walls

- **Quiz Question #6**

  As per section 1410.7.1 Fascia installation where the design wind pressure is 30 psf or less, finish nails shall be provided in the return leg and spaced a maximum of _____ inches on center.

  A. 10

  B. 14

  C. 20

  D. 24

  Answer is A, 10 inches

Chapter 14: Exterior Walls

- **Quiz Question #7**

  As per section 1410.7.4 Corners on hip roofs, fasica shall be bent around corners and extend at least _____ inches beyond the corner.

  A. 10

  B. 12

  C. 14

  D. 18

  Answer is B, 12 inches

Chapter 15
Roof Assemblies and Rooftop Structures

Chapter 15: Roof Assemblies and Rooftop Structures

- **1504.2.1.4 Underlayment testing** A new section is added requiring underlayment for concrete and clay tile to be tested for uplift resistance in accordance with FM 4474 or UL 1897.

- **Code Excerpt:**

  1504.2.1.4 Underlayment testing: Adhered or mechanically attached tile underlayment or underlayment assemblies shall be tested in accordance with FM 4474 or UL 1897.

Chapter 15: Roof Assemblies and Rooftop Structures

- **1507.1.1 Underlayment:** The entire section and subsections have been reformatted to simplify the requirements and provide clarity. The key changes are as follows:
  - The reference to synthetic underlayment has been deleted and replaced with a reference to ASTM D8257 which applies to synthetic underlayment.
  - The minimum width of self-adhering strips of polymer-modified bitumen membrane used with Table 1507.1.1 has been reduced from 4 inches to 3 ¾ inches .
  - Lapping and fastening requirements for the double layer underlayment system (Item 3, Section 1507.1.1.1) has been revised to accommodate underlayment products wider than 36 inches.

- **Code Excerpt:**

  1507.1.1 Underlayment: Underlayment for roof slopes 2:12 and greater shall conform to the applicable standards listed in this chapter. Underlayment materials required to comply with ASTM D226, D1970, D4869, D6757 and D8257 shall bear a label indicating compliance to the standard designation and, if applicable, type classification indicated. Underlayments for roof slopes 2:12 and greater shall be applied and attached in accordance with Section 1507.1.1.1 or 1507.1.1.2, as applicable.

Chapter 15: Roof Assemblies and Rooftop Structures

- **1507.1.1 Exceptions:**

    1. For areas of a roof that cover exterior walkways and roofs of agricultural buildings, underlayment shall comply with the manufacturer's installation instructions.
    2. Compliance with Section 1507.1.1.1 is not required for structural metal panels that do not require a substrate or underlayment.

1507.1.1.1 Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type roof shingles, wood shakes and wood shingles: Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles, wood shakes and wood shingles shall comply with one of the following methods:

1. The entire roof deck shall be covered with an approved self-adhering polymer modified bitumen underlayment complying with ASTM D1970 installed in accordance with both underlayment manufacturer's and roof covering manufacturer's installation instructions for the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed.

Chapter 15: Roof Assemblies and Rooftop Structures

- **Exceptions:**

  1. This method is not permitted for wood shingles or shakes.
  2. An existing self-adhering modified bitumen underlayment that has been previously installed over the roof decking and, where it is required, renailing off the roof sheathing in accordance with Section 706.7.1 of the *Florida Building Code, Existing Building* can be confirmed or verified. An approved underlayment in accordance with Table 1507.1.1.1 for the applicable roof covering shall be applied over the entire roof over the existing self-adhered modified bitumen underlayment.

2. A minimum of 3 3/4-inch-wide (95 mm) strip of self-adhering polymer-modified bitumen membrane complying with ASTM D1970 or self-adhering flexible flashing tape complying with AAMA 711, Level 3 [for exposure up to 176 °F (80 °C)], installed in accordance with the manufacturer's instructions for the deck material, shall be applied over all joints in the roof decking. An approved underlayment in accordance with Table 1507.1.1.1 for the applicable roof covering shall be applied over the entire roof over the membrane strips.

Chapter 15: Roof Assemblies and Rooftop Structures

3. Two layers of ASTM D226 Type II or ASTM D4869 Type III, Type IV or ASTM D8257 underlayment shall be installed as follows: Apply a strip of underlayment for the first course that is half the width of a full sheet parallel to and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply a full sheet of underlayment for the second course. Apply the third course of underlayment overlapping the second course half the width of a full sheet plus 2 inches (51 mm). Overlap all successive courses half the width of a fell sheet plus 1 inch (25 mm). End laps shall be 6 inches (152 mm) and shall be offset by 6 feet (1829 mm). Underlayment shall be attached to a nailable deck with corrosion-resistant fasteners with a maximum fastener spacing measured horizontally and vertically of 12 inches (305 mm) o.c. between side laps, and one row at the end and side laps fastened 6 inches (152 mm) o.c. Underlayment shall be attached using annular ring or deformed shank nails with metal or plastic caps with a nominal cap diameter of not less than 1 inch (25.4 mm). Metal caps are required where the ultimate design wind speed, V_{ult}, equals or exceeds 170 mph. Metal caps shall have a thickness of not less than 32-gage sheet metal.

Chapter 15: Roof Assemblies and Rooftop Structures

The minimum thickness of the outside edge of plastic caps shall be 0.035 inch (0.889 mm). The cap nail shank shall be not less than 0.083 inch (2.1082 mm) for ring shank cap nails. The cap nail shank shall have a length sufficient to penetrate through the roof sheathing of not les than ¾ inch (19.05 mm) into the roof sheathing.

Exception:

1. Use of ASTM D8257 underlayment is not permitted for wood shingles or shakes.

Chapter 15: Roof Assemblies and Rooftop Structures

Table 1507.1.1.1 Underlayment with Self-Adhering Strips Over Roof Decking Joints

Roof Covering	Underlayment Type	Underlayment Attachment	
		Roof Slope 2:12 and Less Than 4:12	Roof Slope 4:12 and Greater
Asphalt Shingles, Metal Roof Panels, Photovoltaic Shingles	ASTM D226 Type II ASTM D4869Type III or IV ASTM D6757ASTM D8257	Apply in accordance with Section 1507.1.1.1, Item 3.	Underlayment shall be applied shingle fashion, parallel to and starting from the eave and lapped 4 inches; end laps shall be 6 inches and shall be offset by 6 feet. Underlayment shall be attached to a nailable deck with corrosion-resistant fasteners with a maximum fastener spacing measured horizontally and vertically of 12 inches o.c. between side laps and one row at the end and side laps fastened 6 inches o.c. Underlayment shall be attached using annular ring or deformed shank nails with metal or plastic caps with a nominal cap diameter of not less than 1 inch. Metal caps are required where the ultimate design wind speed, Vult, equals or exceeds 170 mph. Metal caps shall have a thickness of not less than 32-gage sheet metal. Power-driven metal caps shall have a minimum thickness of 0.010 inch. The minimum thickness of the outside edge of plastic caps shall be0.035 inch. The cap nail shank shall be not less than 0.083inch for ring shank cap nails. The cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than 3/4 inch into the roof sheathing.
Metal Roof Shingles, Mineral-Surface Roll Roofing, Slate and Slate-type Shingles	ASTM D226 Type II ASTM D4869 Type III or IV ASTM D8257		
Wood Shingles, Wood Shakes	ASTM D226 Type IIASTM D4869 Type III or IV		

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.

Chapter 15: Roof Assemblies and Rooftop Structures

- **1518.2 Underlayments (HVHZ roof slopes 2:12 or greater)**

  Underlayments types and installation for all roof coverings have been revised to be consistent with areas outside the HVHZ in Section 1507.1.1. The key changes are as follows:

  - Where felt underlayment is used, it must be 30# or equivalent (ASTM D226 Type II, ASTM D4869 Types III or IV.
  - Underlayment complying with ASTM D8257 (synthetic underlayment) has been added as an option for some roof coverings.
  - Lapping and fastening requirements for the double layer underlayment system (Item 3, Section 1518.2.1) has been revised to accommodate underlayment products that are wider than 36 inches.
  - Where self-adhering strips/tapes are applied over roof deck joints, a 30# equivalent underlayment with enhanced fastening is required over the strips/tapes.

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- A new exception permits an existing self-adhered membrane to remain on the roof provided that, if required, re-nailing of the roof deck in accordance with Section 706.7.1 of the FBCEB can be confirmed or verified.

- An approved underlayment for the applicable roof coverings is required to be applied over the existing self-adhered membrane.

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- **1518.2 Underlayments.** Underlayment for roof slopes 2:12 and greater shall conform to the applicable standards listed in this chapter. Underlayment materials required to comply with ASTM D226, D1970, D6757 and D8257 shall bear a label indicating compliance with the standard designation and, if applicable, type classification indicated. Underlayments for roof slopes 2:12 and greater shall be applied and attached in accordance with Section 1518.1, 1518.2, 1518.5, 1518.6, 1518.7, 1518.8, 1518.9, 1518.10 or 1518.11, as applicable.

  Exceptions:

  1. For areas of a roof that cover exterior walkways and roofs of agricultural buildings, underlayment shall comply with the manufacturer's installation instructions.

  2. Compliance with Section 1518.2.1 is not required for structural metal panels that do not require a substrate or underlayment.

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- **1518.2.1 Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles.** Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles shall comply with one of the following methods:

  1. The entire roof deck shall be covered with an approved self-adhering polymer modified bitumen underlayment complying with ASTM D1970 installed in accordance with both the underlayment manufacturer's and roof covering manufacturer's installation instructions for the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed.

     Exception: An existing self-adhering modified bitumen underlayment that has been previously installed over the roof decking and, where it is required, renailing of the roof sheathing in accordance with Section 706.7.1 of the *Florida Building Code, Existing Building* can be confirmed or verified. An approved underlayment in accordance with Table 1507.1.1.1 for the applicable roof covering shall be applied over the entire roof over the existing self-adhered modified bitumen underlayment.

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2. A minimum 3 ¾-inch-wide (95 mm) strip of self-adhering polymer-modified bitumen membrane complying with ASTM D1970 or self-adhering flexible flashing tape complying with AAMA 711, Level 3 [for exposure up to 176°F (80°C)] installed in accordance with the manufacturer's instructions for the deck material, shall be applied over all joints in the roof decking. An approved underlayment in accordance with Table 1518.2.1 for the applicable roof covering shall be applied over the entire roof over the membrane strips.

3. Two layers of ASTM D226 Type II, D4869 Type III or IV, D8257 underlayment shall be installed as follows: Apply a strip of underlayment for the first course that is half the width of a full sheet parallel to and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply a full sheet of underlayment for the second course. Apply the third course of underlayment overlapping the second course half the width of a full sheet plus 2 inches (51 mm). Overlap all successive courses half the width of a full sheet plus 1 inch (25.4 mm). End laps shall be 6 inches (152 mm) and shall be offset by 6 feet (1829 mm).

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continued…

Underlayment shall be attached to a nailable deck with corrosion-resistant fasteners with a maximum fastener spacing measured horizontally and vertically of 12 inches (305 mm) o.c. between side laps, and one row at the end and side laps fastened 6 inches (152 mm) o.c. Underlayment shall be attached using annular ring or deformed shank nails with metal or plastic caps with a nominal cap diameter of not less than 1 inch (25.4 mm). Metal caps are required where the ultimate design wind speed, V_{ult} , equals or exceeds 170 mph (76 m/s). Metal caps shall have a thickness of not less than 32-gage sheet metal. The minimum thickness of the outside edge of plastic caps shall be 0.035 inch (0.889 mm). The cap nail shank shall be not less than 0.083 inch (2.1082 mm) for ring shank cap nails. The cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than ¾ inch (19.05 mm) into the roof sheathing.

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Table 1518.2.1 Underlayment with Self-Adhering Strips Over Roof Decking Joints

ROOF COVERING	UNDERLAYMENT TYPE	UNDERLAYMENT ATTACHMENT	
		Roof Slope 2:12 and Less Than 4:12	Roof Slope 4:12 and Greater
Asphalt Shingles, Metal Roof Panels, Photovoltaic Shingles	ASTM D226 Type II ASTM D4869 Type III or IV ASTM D6757	Apply in accordance with Section 1518.2.1, Item 3	Underlayment shall be applied shingle fashion, parallel to and starting from the eave and lapped 4 inches; end laps shall be 6 inches and shall be offset by 6 feet. Underlayments shall be fastened with approved minimum 12 gage by 1 1/4 in. corrosion-resistant annular ring shank roofing nails fastened through minimum 32 gage by 1 5/8 in. diameter approved tin caps. Underlayment shall be attached to a nailable deck in a grid pattern of 12 inches between the overlaps, with 6-inch spacing at the overlaps. Nails shall be of sufficient length to penetrate through the sheathing or wood plank a minimum of 1/8in. or penetrate 1 inch or greater thickness of lumber a minimum of 1 in., except where architectural appearance is to be preserved, in which case a minimum of 3/4 in. nail may be used.
Metal Roof Shingles, Mineral-Surface Roll Roofing, Slate and Slate-type Shingles, Wood Shingles, Wood Shake	ASTM D226 Type II ASTM D4869 Type III or IV ASTM D8257		

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.

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1518.3 Self-adhering membrane required to be applied over mechanically attached anchor sheet – DELETED

~~If the underlayment is a self-adhering membrane, the membrane shall be applied over a mechanically attached anchor sheet, attached in compliance with Section 1518.2.1.~~

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- **Quiz Question #8**

  As per section 1518.2.1 Underlayment, metal caps are required where the ultimate design wind speed, V_{ult}, equals and exceeds _____ mph.

  A. 100
  B. 120
  C. 150
  D. 170

  Answer is D, 170 mph

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- **Table 1604.5 Risk Category of Buildings and Other Structures** A new occupancy type is added to Risk Category III – buildings and other structures containing one or more public assembly spaces each having an occupant load greater than 300 and a cumulative occupant load of these public assembly spaces of greater than 2,500.

  Buildings and structures containing a Group I-4 occupancy with an occupant load greater than 250 have been added as Risk Category III.

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Table 1604.5 Risk Category of Buildings and Other Structures (Category III Only)

RISK CATEGORY	NATURE OF OCCUPANCY
III	Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to: • Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300. • Buildings and other structures containing one or more public assembly spaces each having an occupant load greater than 300 and a cumulative occupant load of these public assembly spaces of greater than 2,500. • Buildings and other structures containing Group E or Group I-4 occupancies or combination thereof, with an occupant load greater than 250. • Buildings and other structures containing educational occupancies for students above the 12th grade with an occupant load greater than 500. • Group I-2 occupancies with an occupant load of 50 or more resident care recipients but not having surgery or emergency treatment facilities. • Group I-3 occupancies. • Any other occupancy with an occupant load greater than 5,000.a • Power-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV. • Buildings and other structures not included in Risk Category IV containing quantities of toxic or explosive materials that: • Exceed maximum allowable quantities per control area as given in Table 307.1(1) or 307.1(2) or per outdoor control area in accordance with the Florida Fire Prevention Code; and • Are sufficient to pose a threat to the public if released

a. For purposes of occupant load calculation, occupancies required by Table 1004.5 to use gross floor area calculations shall be permitted to use net floor areas to determine the total occupant load.

b. Where approved by the building official, the classification of buildings and other structures as Risk Category III or IV based on their quantities of toxic, highly toxic or explosive materials is permitted to be reduced to Risk Category II, provided it can be demonstrated by a hazard assessment in accordance with Section 1.5.3 of ASCE 7 that a release of the toxic, highly toxic or explosive materials is not sufficient to pose a threat to the public.

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- **1609.3 Ultimate Design Wind Speed**

  Ultimate design wind speeds have been updated to correlate with ASCE 7-22. Wind speeds are unchanged for most of Florida except for the panhandle area where wind speeds have increased slightly in some areas.

  A new note has been added permitting location-specific wind speeds to be determined using the ASCE Wind Design Geodatabase.

- **See following Figures 1609.3(1), 1609.3(2). 1609.3(3) and 1609.3(4)**

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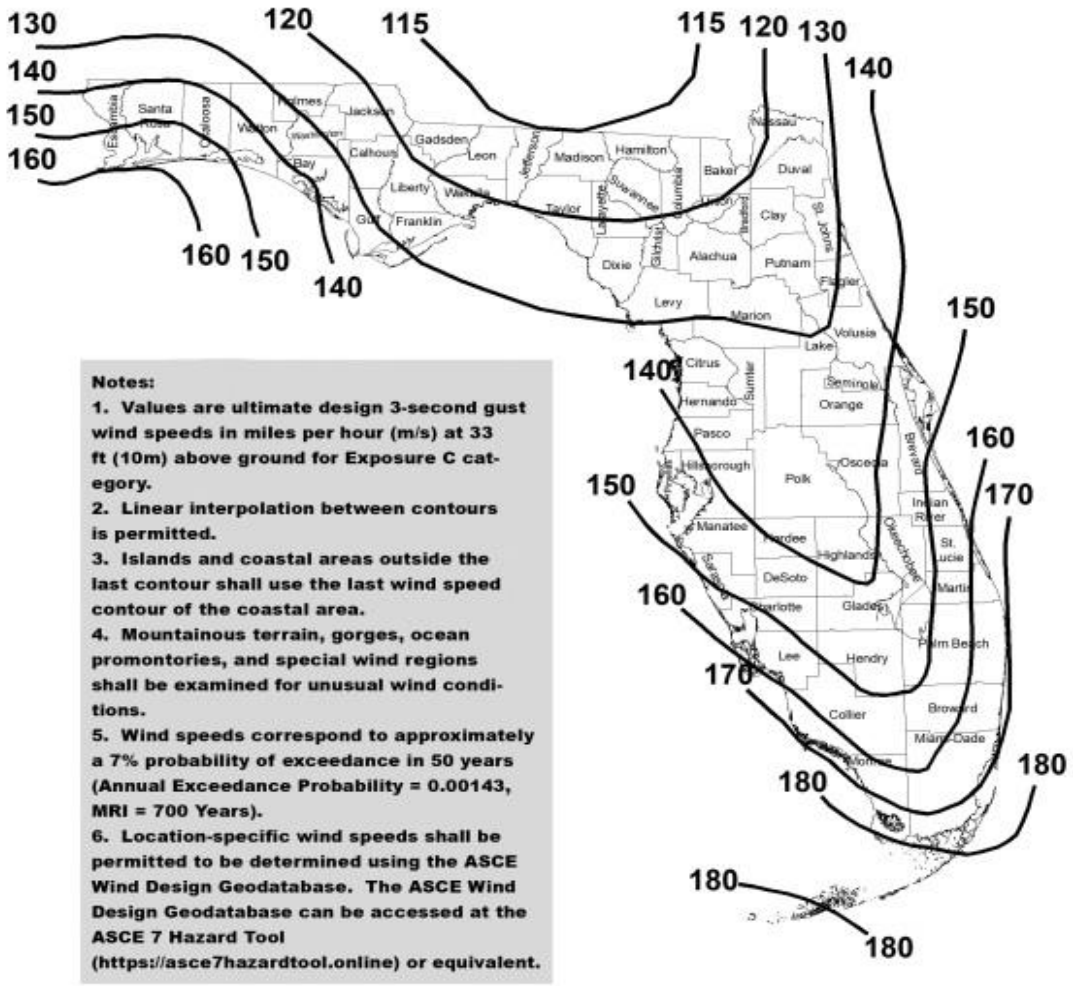

Notes:

1. Values are ultimate design 3-second gust wind speeds in miles per hour (m/s) at 33 ft (10m) above ground for Exposure C category.
2. Linear interpolation between contours is permitted.
3. Islands and coastal areas outside the last contour shall use the last wind speed contour of the coastal area.
4. Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.
5. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (Annual Exceedance Probability = 0.00143, MRI = 700 Years).
6. Location-specific wind speeds shall be permitted to be determined using the ASCE Wind Design Geodatabase. The ASCE Wind Design Geodatabase can be accessed at the ASCE 7 Hazard Tool (https://asce7hazardtool.online) or equivalent.

Figure 1609.3(1) Ultimate Design Wind Speeds, V ult, For Risk Category II Buildings and Other Structures

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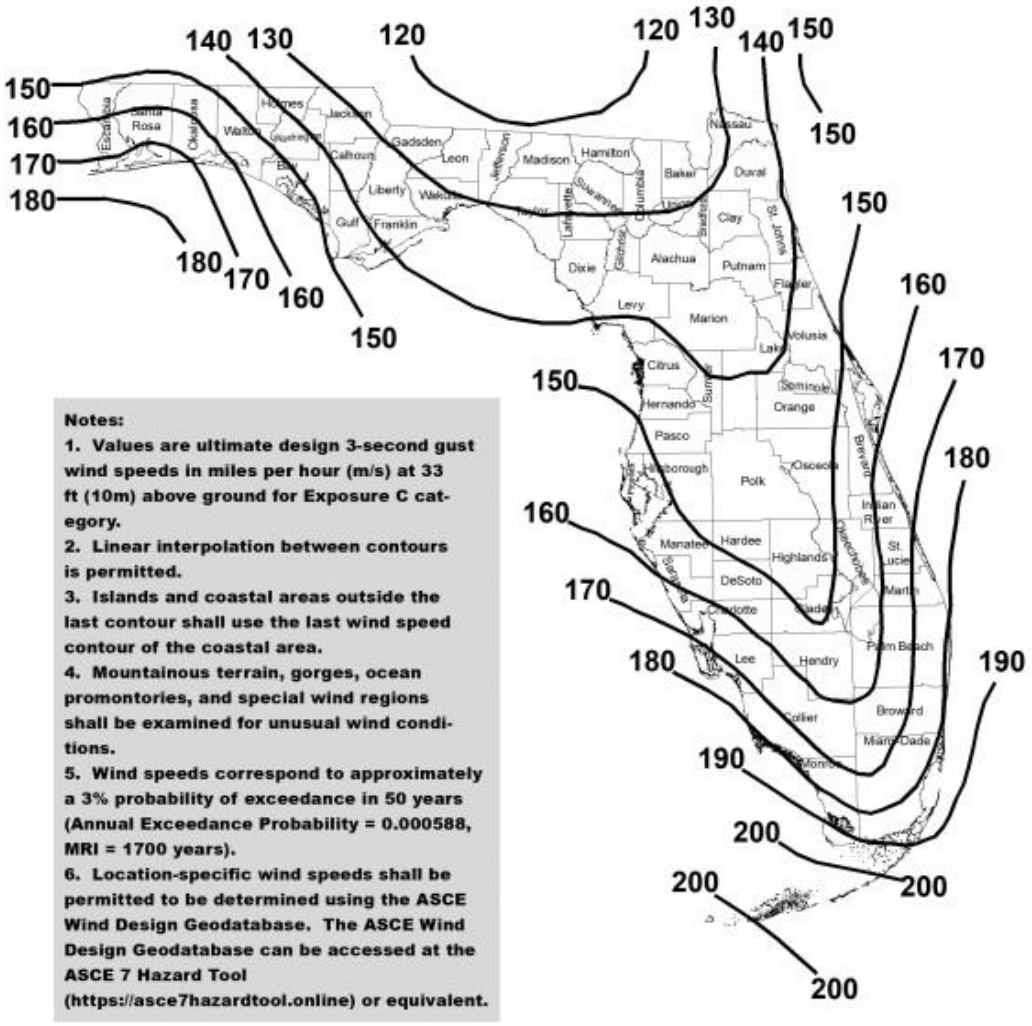

Figure 1609.3(2) Ultimate Design Wind Speeds, V ult, For Risk Category III Buildings and Other Structures

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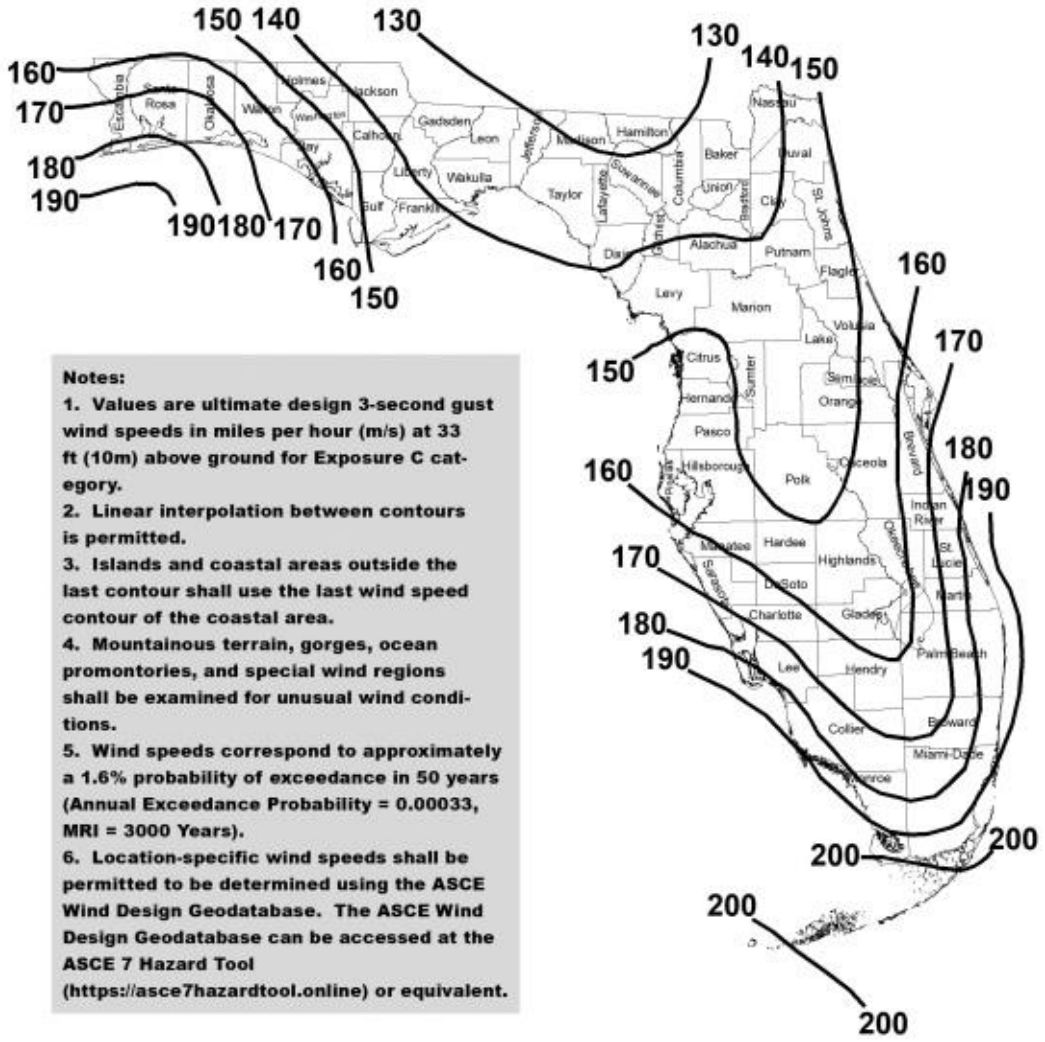

Figure 1609.3(3) Ultimate Design Wind Speeds, V ult, For Risk Category IV Buildings and Other Structures

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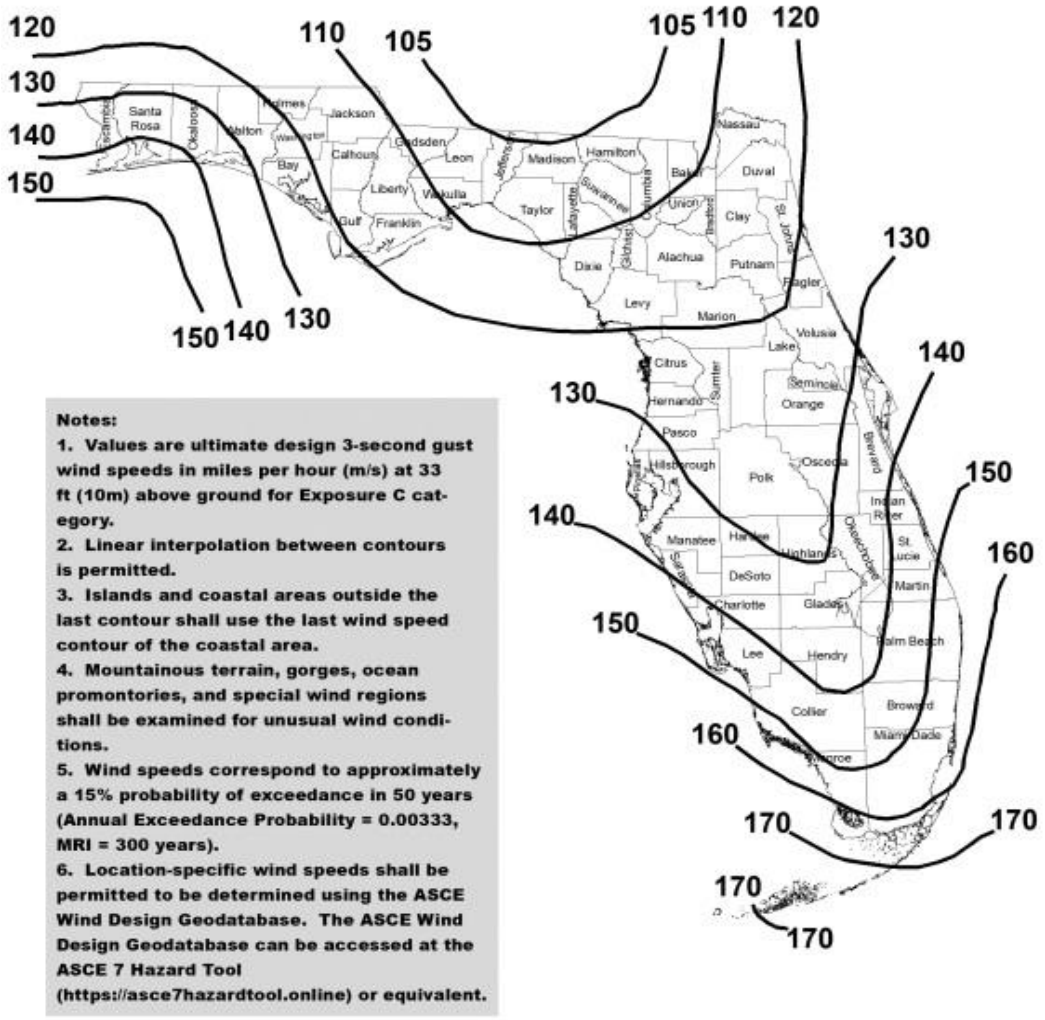

Notes:

1. Values are ultimate design 3-second gust wind speeds in miles per hour (m/s) at 33 ft (10m) above ground for Exposure C category.
2. Linear interpolation between contours is permitted.
3. Islands and coastal areas outside the last contour shall use the last wind speed contour of the coastal area.
4. Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.
5. Wind speeds correspond to approximately a 15% probability of exceedance in 50 years (Annual Exceedance Probability = 0.00333, MRI = 300 years).
6. Location-specific wind speeds shall be permitted to be determined using the ASCE Wind Design Geodatabase. The ASCE Wind Design Geodatabase can be accessed at the ASCE 7 Hazard Tool (https://asce7hazardtool.online) or equivalent.

Figure 1609.3(4) Ultimate Design Wind Speeds, V ult, For Risk Category I Buildings and Other Structures

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- **1609.5 Tornado Loads**
  This is a new section added requiring the design and construction of Risk Category III and IV buildings and structures to be in accordance with Chapter 32 (Tornado Loads) of ASCE 7.

- **Code Excerpt:**

  1609.5 Tornado Loads. The design and construction of *Risk Category* III and IV buildings and other structures shall be in accordance with Chapter 32 of ASCE 7, except as modified by this code.

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- **1612.5 Flood Hazard Documentation**

  This is a new language added permitting licensed and professional surveys or mappers to prepare and seal flood hazard documentation.

  For dry floodproofed nonresidential buildings, construction documents are now required to include the flood emergency plan specified in Chapter 6 of ASCE 24 and the site elevation to which the building is dry floodproofed.

  In coastal high hazard areas and coastal A zones, construction documents are required to include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.7.2.2 of ASCE 24 for breakaway walls where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.7.2.1 of ASCE 24.

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- **Code Excerpt:**

1612.5 Flood Hazard Documentation The following documentation shall be prepared and sealed by a licensed professional surveyor and mapper or a *registered design professional*, as applicable, and submitted to the *building official*:

1. For construction in *flood hazard areas* other than *coastal high hazard areas or coastal A zones*:

    1.1 The elevation of the lowest floor, including the basement, as required by the lowest floor elevation inspection in Section 110.3, Building, 1.1 and for the final inspection in Section 110.3, Building, 5.1.

    1.2 For fully enclosed areas below the design flood elevation where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.7.2.1 of ASCE 24, *construction documents* shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.7.2.2 of ASCE 24.

    1.3 For *dry floodproofed* nonresidential buildings, *construction documents* shall include a statement that the dry floodproofing is designed in accordance with ASCE 24 and shall include the flood emergency plan specified in Chapter 6 of ASCE 24.

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- *continued*

1.4 For *dry floodproofed* nonresidential buildings, the elevation to which the building is *dry floodproofed* as required for the final inspection in Section 110.3, Building, 6.1.

2. For construction in *coastal high hazard areas and coastal A zones*:

2.1 The elevation of the bottom of the lowest horizontal structural member as required by the lowest floor elevation inspection in Section 110.3, Building 1.1 and for the final inspection in Section 110.3, Building, 5.1.

2.2 Construction documents shall include a statement that the building is designed in accordance with ASCE 24, including the pile or column foundation and building or structure to be attached thereto is designed to be anchored to resist flotation, collapse and lateral movement due to the effects of wind and flood loads acting simultaneously on all building components, and other load requirements of Chapter 16.

2.3 For breakaway walls designed to have a resistance of more than 20psf (0.96 kN/m^2 determined using allowable stress design, construction documents shall include a statement that the breakaway wall is designed in accordance with ASCE 24.

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- *Continued*

2.4 For breakaway walls where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.7.2.1 of ASCE 24, construction documents shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.7.2.2 of ASCE 24.

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- **1620.7 Tornado Loads**
  This is a new section added requiring the design and construction of Risk Category III and IV buildings and structures to be in accordance with Chapter 32 (Tornado Loads) of ASCE 7.

- **Code Excerpt:**

  1620.7 Tornado Loads. The design and construction of *Risk Category* III and IV buildings and other structures shall be in accordance with Chapter 32 of ASCE 7, except as modified by this code.

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- **Quiz Question #9**

  As per section 1609.3, Ultimate design wind speeds are unchanged for most of Florida except for most of Florida except for the panhandle area where wind speeds have increased slightly in some areas.

  A. True

  B. False

  Answer is A, True

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- **Quiz Question #10**

  As per section 1612.5 Flood hazard documentation, breakaway walls shall be designed in accordance with ASCE 24 and have a resistance of more than _____ psf.

  A. 20

  B. 40

  C. 60

  D. 90

  Answer is A, 20 psf

This concludes the 2023 Advanced Florida Building Code 8th Edition Significant Code Changes video

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