**Supplement to the 8th Edition (2023) FBC, Fuel Gas**

**Note 1**: Throughout the document, change International Building Code to Florida Building Code, Building; Energy Conservation Code tothe Florida Building Code, Energy Conservation; change the International Existing Building Code to Florida Building Code, Existing Building; change the International Fire code to Florida Fire Prevention Code; change International Fuel Gas Code to Florida Building Code, Fuel Gas; change the International Mechanical Code to Florida Building Code, Mechanical; change the International Plumbing Code to Florida Building Code, Plumbing; change the International Residential Code to Florida Building Code, Residential.

**CHAPTER 1 SCOPE AND ADMINISTRATION**

No change

**CHAPTER 2 DEFINITIONS**

APPROVED AGENCY. An established and recognized ~~agency~~ organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing evaluation or certification, where such ~~agency~~ organization has been approved by the code official

**(Need to propose)**

**[A] LISTED.**

Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose. Terms that are used to identify listed equipment, products, or materials include “listed”, “certified”, “classified” or other terms as determined appropriate by the listing organization.

(P11635 / ADM1-22 Part I AS)

**[A] PEER REVIEW.** An independent and objective technical review conducted by an *approved* third party. (Need to propose this - missed)

**CHAPTER 3 GENERAL REGULATIONS**

**[BS] 302.6 Cutting, and notching ~~and boring~~ ~~holes~~ in cold-formed steel framing.** The cutting, and notching of holes in cold-formed steel framing members shall be in accordance with AISI S240 for structural members and AISI S220 for non-structural members. ~~Flanges~~ ~~and lips of load-bearing, cold-formed steel framing members shall not be cut or notched. Holes in webs of load-bearing, cold-formed stee~~l ~~framing members shall be permitted along the centerline of the web of the framing member and shall not exceed the dimensional limitations~~ ~~penetration spacing or minimum hole edge distance as prescribed by the~~ *~~registered design professional~~*~~. Cutting, notching and boring holes~~ ~~of steel floor/roof decking shall be as prescribed by the~~ *~~registered design professional~~*~~.~~

##### Delete without substitution:

**~~[BS] 302.7 Cutting, notching and boring holes in non-structural cold-formed steel wall framing~~.** ~~Flanges and lips of nonstructura~~l

~~cold-formed steel wall studs shall be permitted along the centerline of the web of the framing member, shall not exceed 1~~~~1~~~~/~~~~2~~ ~~inches (38 mm) in width or 4 inches (102 mm) in length, and the holes shall not be spaced less than 24 inches (610 mm) center to center from another hole~~ ~~or less than 10 inches (254 mm) from the bearing end.~~

(P11653 / S196-22 AM)

**SECTION 304 (IFGS) COMBUSTION, VENTILATION AND DILUTION AIR**

**304.1 General.** ~~Air for combustion, ventilation and dilution of flue gases for~~ *~~appliances~~* ~~installed in buildings shall be provided by application of one of the methods prescribed in Sections 304.5 through 304.9. Where the requirements of Section 304.5 are not met, outdoor air shall be introduced in accordance with one of the methods prescribed in Sections 304.6 through 304.9.~~ *~~Direct-vent appliances~~* ~~, gas~~ *~~appliances~~* ~~of other than natural draft design, vented gas appliances~~

~~not designated as Category I and appliances equipped with power burners shall be provided with combustion, ventilation and dilution air in accordance with the~~ *~~appliance~~* ~~manufacturer’s instructions.~~

**~~Exception:~~** ~~Type 1 clothes dryers that are provided with makeup air in accordance with Section~~

~~614.7.~~

Where chemicals that generate corrosive or flammable products such as aerosol sprays are routinely used, one of the following shall apply to fired appliances where these chemicals can enter combustion air:

1. Fired appliances shall be located in a mechanical room separate or partitioned off from other areas with provisions for combustion and dilution air from outdoors.

2. The appliances shall be direct vent and installed in accordance with the appliance

manufacturer’s installation instructions.

(Missing) – Need to propose

**304.12 Protection from fumes and gases.** ~~Where corrosive or flammable process fumes or gases, other than products of combustion, are present, means for the disposal of such fumes or gases shall be provided. Such fumes or gases include carbon monoxide, hydrogen sulfide, ammonia, chlorine and halogenated hydrocarbons. In barbershops, beauty shops and other facilities where chemicals that generate corrosive or flammable products, such as aerosol sprays, are routinely used, nondirect vent-type~~ *~~appliances~~* ~~shall be located in a mechanical room separated or partitioned off from other areas with provisions for~~ *~~combustion air~~* ~~and dilution air from the outdoors.~~ *~~Direct-vent appliances~~* ~~shall be installed in accordance with the appliance manufacturer’s instructions.~~ Where chemicals that generate

corrosive or flammable products such as aerosol sprays are routinely used, one of the following shall apply to fired *appliances* where these chemicals can enter combustion air:

1. Fired appliances shall be located in a mechanical room separate or partitioned off from other areas with provisions for combustion and dilution air from outdoors.

2. The appliances shall be direct vent and installed in accordance with the appliance

manufacturer’s installation instructions.

**(Missing – need to propose)**

(P11652 / G1-21 Part V AS)

**[M] 306.1 Access for maintenance and replacement.** *Appliances* , control devices, heat exchangers and HVAC components that utilize energy shall ~~be accessible~~ provide access for inspection, service, repair and replacement without disabling the function of a fire-resistance-rated assembly or removing permanent construction, other *appliances* , or any other *piping* or ducts not connected to the *appliance* being inspected, serviced, repaired or replaced. A level working space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be provided in front of the control side to service an *appliance* .

1. **306.5 Equipment and appliances on roofs or elevated structures.** Where *equipment* requiring access or *appliances* are located on an elevated structure or the roof of a building such that personnel will have to climb higher than 16 feet (4877 mm) above grade to access such *equipment* or *appliances,* an interior or exterior means of access shall be provided. Such access shall not require climbing over obstructions greater than 30 inches (762 mm) in height or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope). Such access shall not require the use of portable ladders.

Permanent ladders installed to provide the required *access* shall comply with the following minimum design criteria:

* 1. The side railing shall extend above the parapet, roof edge or landing platform not less than ~~30 inches (762 mm)~~ 42 inches (1067 mm).
  2. Ladders shall have rung spacing not less than 10 inches (254 mm) and not to exceed 14 inches (356 mm) on center. The upper-most rung shall be not more than 24 inches (610 mm) below the upper edge of the roof hatch, roof or parapet, as applicable.
  3. Ladders shall have a toe spacing not less than ~~6 inches (152 mm)~~ 7 inches (178 mm) and not more than 12 inches (305 mm) deep.
  4. There shall be not less than ~~18 inches (457 mm) between rails~~ 16 inches (406 mm) between rails.
  5. Rungs shall have a diameter not less than 0.75-inch (19 mm) and be capable of withstanding a 300-pound (136.1 kg) load.
  6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds per square foot (488.2 kg/m2). Landing

dimensions shall be not less than 18 inches (457 mm) and not less than the width of the

ladder served. A guard rail shall be provided on all open sides of the landing.

7. Climbing clearance. The distance from the centerline of the rungs to the nearest permanent object on the climbing side of the ladder shall be not less than 30 inches (762 mm) measured perpendicular to the rungs. This distance shall be maintained from the point of ladder access to the bottom of the roof hatch. A minimum clear width of 15 inches (381 mm) shall be provided on both sides of the ladder measured from the midpoint of and parallel with the rungs, except where cages or wells are installed.

8.Landing required. The ladder shall be provided with a clear and unobstructed bottom landing area having a minimum dimension of 30 inches by 30 inches (762 mm by 762 mm) centered in front of the ladder.

1. Ladders shall be protected against corrosion by *approved* means.
2. Access to ladders shall be provided at all times.
3. Top landing required. The ladder shall be provided with a clear and unobstructed landing on the exit side of the roof hatch having a minimum space of 30 inches (762 mm) deep and

be of the same width as the hatch.

(P11654-G1 – Correlation with NFPA 54) (Text of page 79 missing from mod in system)/(P11652/G1-21 Part V)

**SECTION 310 (IFGS)**

**ELECTRICAL BONDING**

**310.1 Pipe and tubing other than CSST.** Each aboveground portion of a gas *piping* system other than corrugated stainless steel tubing (CSST) that is likely to become energized shall be electrically continuous and bonded to an effective ground-fault current path. Gas *piping* other than CSST shall be considered to be bonded where it is connected to ~~an~~ one or more *appliances* that is Page 87 of 376

are connected to the *equipment* grounding conductor of the circuit that supplies that *appliance(s).*

**310.3 Arc-resistant CSST.** ~~This section applies to c~~ Corrugated stainless steel tubing (CSST) ~~that is~~ *~~listed~~* with an arc-resistant jacket or coating system ~~in accordance~~ shall be *listed* as arc resistant in accordance with **ANSI LC 1/CSA 6.26**. ~~The~~ Arc-resistant-jacketed CSST shall be electrically continuous and bonded to an effective ground fault current path. Where any CSST used in ~~component of~~ a *piping* system does not have an arc-resistant jacket or coating system, the bonding requirements of **Section 310.2** shall apply. Arc-resistant-jacketed CSST shall be considered to be bonded where it is connected to ~~an~~ one or more *appliances* that is are connected to the equipment *~~appliance~~* grounding conductor of the circuit that supplies that *appliance(s).*

*(Missing – propose)*

**CHAPTER 4 GAS PIPING INSTALLATIONS**

403.7 Workmanship and defects. Gas ~~P~~pipe, tubing and fittings at the time of installation shall meet the following requirements:

1. Gas pipe, tubing and fittings shall be clear and free from cutting burrs and visible defects in structure or threading.

2. Gas pipe, tubing and fittings shall be thoroughly cleaned to remove chip, scale and debris.

3. Visible defects in pipe, tubing and fittings shall not be repaired.

4. Pipe, tubing and fittings with visible defects shall be replaced.

~~be clear and free from cutting burrs and defects in structure or threading, and shall be thoroughly brushed, and chip and scale blown. Defects in pipe, tubing and fittings shall not be repaired. Defective pipe, tubing and fittings shall be replaced.~~

**403.10 Metallic piping joints and fittings.** The type of piping joint used shall conform to the following:

1. It shall be suitable for the pressure-temperature conditions.

2. It shall be ~~and shall be~~ selected giving consideration to joint tightness and mechanical strength under the service conditions.

3. It shall be ~~The joint shall be~~ able to sustain the maximum ~~end force caused by the internal pressure and any additional forces caused by~~ forces inclusive of temperature expansion or contraction, vibration, fatigue, internal pressure or the weight of the pipe and its contents.

(Propose)

403.11.7 Lapped flanges. Lapped flanges shall be used only above ground or in exposed locations ~~accessible~~ with access for inspection.

**(P10919/G1-21 Part III AS)**

**403.12.3 Nonferrous.** Nonferrous flanges shall be in accordance with ASME B16.24 except listed components using aluminum flange connections constructed in accordance with the dimensional specifications of ANSI/ASME B16.5.

(Propose)

**403.13 Flange gaskets.** Material for gaskets shall be capable of withstanding the design temperature and pressure of the *piping* system, and the chemical constituents of the gas being conducted, without change to its chemical and physical properties. The effects of fire exposure to the joint shall be considered in choosing material. Acceptable materials include metal (plain or corrugated), composition, aluminum “O” rings, spiral wound metal gaskets, rubber-faced phenolic and elastomeric. Where a flanged joint is opened, the gasket shall be replaced. Full-face flange gaskets shall be used with all nonsteel flanges.

**403.13.1 Flanges.** When flanges are separated and before gaskets are replaced, the following shall be met:

1.Flange faces shall be cleaned.

2. Flange surfaces shall be inspected for pitting, corrosion and other surface defects.

3. Flanges that contain pitting, corrosion and other surface defects on faces shall be repaired or replaced.

**~~403.13.1~~403.13.2 Metallic gaskets.** Metallic flange gaskets shall be in accordance with

**ASME B16.20**.

**~~403.13.2~~403.13.3 Nonmetallic gaskets.** Nonmetallic flange gaskets shall be in accordance with **ASME B16.21**.

(P11648-G1 / FG3-21 – Correlation with NFPA 54) Here

**404.8.2 Conduit with both ends terminating indoors.** Where the conduit originates and terminates within the same building, the conduit shall originate and terminate in ~~an accessible~~ a portion of the building with access and shall not be sealed. The conduit shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor.

**404.14.2 Conduit with both ends terminating indoors.** Where the conduit originates and terminates within the same building, the conduit shall originate and terminate in ~~an accessible~~ a portion of the building with access and shall not be sealed. The conduit shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor.

**(P10919/G1-21 Part III AS)**

**406.1.2 Repairs and additions. In** the event repairs or additions are made after the pressure test, the affected piping shall be tested. Minor repairs and additions ~~are not~~ shall not be required to be pressure tested provided that the work is inspected and connections are tested with a noncorrosive leak-detecting fluid or other approved leak-detecting methods.

**406.5.1 Detection methods.** The leakage shall be located by means of ~~an approved~~ a listed combustible gas detector, a noncorrosive leak detection fluid or other approved leak detection methods.

(Propose)

**406.7.3 Purging appliances and equipment.** After the *piping* system has been placed in operation, *appliances* and *equipment* shall be purged before being placed into operation.

**406.7.3.1 Abandoned fuel gas piping.** Where fuel gas piping is removed from service

an indefinite time period, it shall be purged.

(P11648-G1 / FG3-21 – Correlation with NFPA 54) Here

**407.2 Design and installation.** *Piping* shall be supported with ~~meta~~l pipe hooks, ~~metal~~ pipe straps, ~~metal~~ bands, ~~metal~~ brackets, ~~metal~~ hangers or building structural components, suitable for the size of *piping*, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration. *Piping* shall be anchored to prevent undue strains on connected *appliances* and shall not be supported by other *piping*. Pipe hangers and supports shall conform to the requirements of MSS SP-58 and shall be spaced in accordance with Section 415. Supports, hangers and anchors shall be installed so as not to interfere with the free expansion and contraction of the *piping* between anchors. The components of the supporting *equipment* shall be designed and installed so that they will not be disengaged by movement of the supported *piping*

(P11648 / FG3-21 AS)

**409.5.3 Located at manifold.** Where the appliance shutoff valve is installed at a manifold, such shutoff valve shall be located within 50 feet (15 240 mm) of the appliance served and shall ~~be readily accessible~~ have ready access and be permanently identified. The piping from the manifold to within 6 feet (1829 mm) of the appliance shall be designed, sized and installed in accordance with Sections 401 through 408.

409.6 Shutoff valve for laboratories. Where provided with two or more fuel gas outlets, including table-, bench- and hood-mounted outlets, each laboratory space in educational, research, commercial and industrial occupancies shall be provided with a single dedicated shutoff valve through which all such gas outlets shall be supplied. The dedicated shutoff valve shall ~~be readily accessible~~ have ready access, be located within the laboratory space served, be located adjacent to the egress door from the space and shall be identified by approved signage stating “Gas Shutoff.”

**411.1.6 Unions.** A union fitting shall be provided for appliances connected by rigid metallic pipe. Such unions shall ~~be accessible~~ have access and be located within 6 feet (1829 mm) of the appliance.

**(P10919 / G1-21 Part III AS)**

**416.3.6 Size of fittings, pipe and openings.** The fittings, pipe and openings located between the system to be protected and the pressure-relieving device shall be sized to prevent hammering of the valve and to prevent ~~impairment~~ reduction of relief capacity.

(Propose)

**CHAPTER 5 CHIMNEYS AND VENTS**

**501.7.3 Connection to masonry fireplace flue.** A connector shall extend from the appliance to the flue serving a masonry fireplace such that the flue gases are exhausted directly into the flue. The connector shall ~~be accessible~~ have access or be removable for inspection and cleaning of both the connector and the flue. Listed direct connection devices shall be installed in accordance with their listing.

**503.5.9** Cleanouts. Where a chimney that formerly carried flue products from liquid or solid fuel-burning appliances is used with an appliance using fuel gas, ~~an accessible~~ a cleanout with access shall be provided. The cleanout shall have a tight-fitting cover and shall be installed so its upper edge is not less than 6 inches (152 mm) below the lower edge of the lowest chimney inlet opening.

**503.12.6** Positioning. Draft hoods and draft regulators shall be installed in the position for which they were designed with reference to the horizontal and vertical planes and shall be located so that the relief opening is not obstructed by any part of the appliance or adjacent construction. The appliance and its draft hood shall be located so that the relief opening ~~is accessible~~ has access for checking vent operation.

**(P10919 / G1-21 Part III AS)**

**503.14 ~~Automatically operated~~ Automatic vent dampers.** An ~~automatically operated~~

automatic vent damper shall be *listed* .

(P11648-G / FG3-21 – Correlation with NFPA 54)

**CHAPTER 6 SPECIFIC APPLIANCES**

**602.1 General.** Decorative appliances for installation in approved solid fuel-burning fireplaces shall be listed in accordance with ~~ANSI Z21.60/CSA 6.26~~ ANSI Z21.60/CSA 2.26 and shall be installed in accordance with the manufacturer’s instructions. Manually lighted natural gas decorative appliances shall be listed in accordance with ANSI Z21.84.

(Propose)

**CHAPTER 7 GASEOUS HYDROGEN SYSTEMS**

No change

**IFGC/IFGS CHAPTER 8 REFERENCED STANDARDS**

See attached

**APPENDIX D (IFGS) RECOMMENDED PROCEDURE FOR SAFETY**

**INSPECTION OF AN EXISTING APPLIANCE INSTALLATION**

**SECTION D.3 GAS PIPING AND CONNECTIONS INSPECTIONS.**

1. No change

2. *Appliance Connector*. Verify that the *appliance* connection type is compliant with Section 411 of the International Fuel Gas Code. Inspect flexible *appliance* connections to determine if they are free of cracks, corrosion and signs of damage. Verify that there are no uncoated ~~brass~~ copper alloy connectors. Where connectors are determined to be unsafe or where an uncoated ~~brass~~ copper alloy connector is found, the appliance shutoff valve should be placed in the off position and the owner notified that the connector must be replaced.

3. No change

4. No change

(P11650 / FG8-21)