**Supplement to the 6th Edition (2017) Florida Building Code, Mechanical**

**Note 1**: Throughout the document, change International Building Code to Florida Building Code, Building; change the International 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**

**Revise Section 202 General Definitions as follows:**

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

 (ADM6-16 Part I AMPC1)

BALANCED VENTILATION. Any combination of concurrently operating mechanical exhaust and mechanical supply whereby the total mechanical exhaust flow rate is within 10% of the total mechanical supply airflow rate.

 (M8326)

**[A] LABELED.** *Equipment*, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, ~~inspection~~ approved agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the *equipment*, material or product meets identified standards or has been tested and found suitable for a specified purpose.

(ADM16-16)

**Add new definition as follows:**

**POLLUTION CONTROL UNIT (PCU)** Manufactured equipment that is installed in a grease exhaust duct system for the purpose of extracting smoke, grease particles, and odors from the exhaust flow by means

of a series of filters.

(M51-15 AMPC2)

**Large-diameter ceiling fan**. A ceiling fan that is greater than 7 feet (2134 mm) in diameter. These fans are sometimes referred to as High-Volume, Low-Speed (HVLS) fans.

(M7836)

**PIPING.** Where used in this code, “piping” refers to either pipe or tubing, or both.

**Pipe.** A rigid conduit of iron, steel, copper, brass, copper alloy or plastic.

**Tubing.** Semirigid conduit of copper, brass, copper-alloy aluminum, plastic or steel.

(M7278 G1)

**PRESS CONNECT JOINT. (no change to text)**A permanent mechanical joint incorporating an elastomeric seal or an elastomeric seal and corrosion-resistant grip ring. The joint is made with a pressing tool and jaw or ring approved by the fitting manufacturer.

(M7279 G1) /(I-Code)

**PRESS-CONNECT JOINT.** (No change to text.)

(M8007) /(I-Code)

**Chapter 3 GENERAL REGULATIONS**

Revise Table 305.4 as follows:

**TABLE 305.4 PIPING SUPPORT SPACINGa**

|  |  |  |
| --- | --- | --- |
| **PIPING MATERIAL** | **MAXIMUMHORIZONTALSPACING****(feet)** | **MAXIMUMVERTICALSP****(feet)** |
| ABS pipe | 4 | 10c |
| Aluminum pipe and tubing | 10 | 15 |
| Brass pipe | 10 | 10 |
| Brass tubing, 11/4-inch diameter and smaller | 6 | 10 |
| Brass tubing, 11/2-inch diameter and larger | 10 | 10 |
| Cast-iron pipeb | 5 | 15 |
| Copper or copper –alloy pipe |  12 |  10 |
| Copper or copper-alloy tubing,~~11/4-inch diameter and smaller~~ | ~~6~~ 8 | 10 |
| ~~Copper or copper-alloy tubing,11/2-inch diameter and larger~~ | ~~10~~ | ~~10~~ |
| CPVC pipe or tubing, 1 inch and smaller | 3 | 10c |
| CPVC pipe or tubing, 11/4-inch and larger | 4 | 10c |
| Lead pipe | Continuous | 4 |
| PB pipe or tubing | 22/3 (32 inches) | 4 |
| PE-RT 1 inch and smaller | 22/3 (32 inches) | 10c |
| PE-RT 11/4 inches and larger | 4 | 10c |
| PEX tubing | 22/3 (32 inches) | 10c |
| Polypropylene (PP) pipe or tubing, 1 inch and smaller | 22/3 (32 inches) | 10c |
| Polypropylene (PP) pipe or tubing, 11/4 inches and larger | 4 | 10c |
| PVC pipe | 4 | 10c |
| Steel tubing | 8 | 10 |
| Steel pipe | 12 | 15 |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

1. a. See Section 301.18.

2. b. The maximum horizontal spacing of cast-iron pipe hangers shall be increased to 10 feet where 10-foot lengths of pipe are installed.

3. c. Mid-story guide.

(M7283/M7284 G1) /(I-Code)

Revise 307.2.2 as follows:

**307.2.2 Drain pipe materials and sizes.** Components of the condensate disposal system shall be cast iron, galvanized steel, brass, copper and copper alloy, cross-linked polyethylene, polyethylene, ABS, CPVC, PVC, or polypropylene pipe or tubing. Components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of Chapter 7 of the *International Plumbing Code* relative to the material type. Condensate waste and drain line size shall be not less than 3 /4 -inch (19.1 mm) internal diameter and shall not decrease in size from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with Table 307.2.2.

(M7286 G1) /(I-Code)

**Chapter 4 VENTILATION**

Revise as follows:

**TABLE 403.3.1.1 (403.3.1.1) MINIMUM VENTILATION RATES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **OCCUPANCY CLASSIFICATION** | **OCCUPAN T DENSITY****#/1000 FT2 a** | **PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING****ZONE, *Rp*CFM/PERSON** | **AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE, *Ra*CFM/FT2 a** | **EXHAUST AIRFLOW RATE CFM/FT2****a** |
| **Correctional facilities** |  |  |  |  |
| Booking/waiting | 50 | 7.5 | 0.06 | — |
| Cells |  |  |  |  |
| without plumbing fixtures | 25 | 5 | 0.12 | — |
| with plumbing fixturesg | 25 | 5 | 0.12 | 1.0 |
| Day room | 30 | 5 | 0.06 | — |
| Dining halls | — | — | — | — |
| (see food and beverage service) |  |  |  |  |
| Guard stations | 15 | 5 | 0.06 | — |
| **Dry cleaners, laundries** |  |  |  |  |
| Coin-operated dry cleaner | 20 | 15 | — | — |
| Coin-operated laundries | 20 | 7.5 | **~~0.06~~0.12** | — |
| Commercial dry cleaner | 30 | 30 | — | — |
| Commercial laundry | 10 | 25 | — | — |
| Storage, pick up | 30 | 7.5 | 0.12 | — |
| **Education** |  |  |  |  |
| Art classroomg | 20 | 10 | 0.18 | 0.7 |
| Auditoriums | 150 | 5 | 0.06 | — |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Classrooms (ages 5-8) | 25 | 10 | 0.12 | — |
| Classrooms (age 9 plus) | 35 | 10 | 0.12 | — |
| Computer lab | 25 | 10 | 0.12 | — |
| Corridors (see public spaces) | — | — | — | — |
| Day care (through age 4) | 25 | 10 | 0.18 | — |
| Lecture classroom | 65 | 7.5 | 0.06 | — |
| Lecture hall (fixed seats) | 150 | 7.5 | 0.06 | — |
| Locker/dressing roomsg | — | — | — | 0.25 |
| Media center | 25 | 10 | 0.12 | — |
| Multiuse assembly | 100 | 7.5 | 0.06 | — |
| Music/theater/dance | 35 | 10 | 0.06 | — |
| Science laboratoriesg | 25 | 10 | 0.18 | 1.0 |
| Smoking loungesb | 70 | 60 | — | — |
| Sports locker roomsg | — | — | — | 0.5 |
| Wood/metal shopsg | 20 | 10 | 0.18 | 0.5 |
| **Food and beverage service** |  |  |  |  |
| Bars, cocktail lounges | 100 | 7.5 | 0.18 | — |
| Cafeteria, fast food | 100 | 7.5 | 0.18 | — |
| Dining rooms | 70 | 7.5 | 0.18 | — |
| Kitchens (cooking)b | —20 | —7.5 | —0.12 | 0.7 |
| **Hotels, motels, resorts and dormitories** |  |  |  |  |
| Bathrooms/toilet— privateg | -- | — | — | 25/50f |
| Bedroom/living room | 10 | 5 | 0.06 | — |
| Conference/meeting | 50 | 5 | 0.06 | — |
| Dormitory sleeping areas | 20 | 5 | 0.06 | — |
| Gambling casinos | 120 | 7.5 | 0.18 | — |
| Lobbies/prefunction | 30 | 7.5 | 0.06 | — |
| Multipurpose assembly | 120 | 5 | 0.06 | — |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Offices** |  |  |  |  |
| Conference rooms | 50 | 5 | 0.06 | — |
| Main entry lobbies | 10 | 5 | 0.06 | — |
| Office spaces | 5 | 5 | 0.06 | — |
| Reception areas | 30 | 5 | 0.06 | — |
| Telephone/data entry | 60 | 5 | 0.06 | — |
| **Private dwellings, single and multiple** |  |  |  |  |
| Garages, common for multiple unitsb | — | — | — | 0.75 |
| Kitchensb | — | — | — | 25/100f |
| Living areasc | Based upon numberof bedrooms.First bedroom, 2; each additional bedroom,1 | 0.35 ACH but not less than 15 cfm/person | — | — |
| Toilet rooms and bathroomsg | — | — | — | 25/50f |
| **Public spaces** |  |  |  |  |
| Corridors | — | — | 0.06 | — |
| Courtrooms | 70 | 5 | 0.06 | — |
| Elevator car | — | — | — | 1.0 |
| Legislative chambers | 50 | 5 | 0.06 | — |
| Libraries | 10 | 5 | 0.12 | — |
| Museums (children’s) | 40 | 7.5 | 0.12 | — |
| Museums/galleries | 40 | 7.5 | 0.06 | — |
| Places of religious worship | 120 | 5 | 0.06 | — |
| Shower room (per shower head)g | — | — | — | 50/20f |
| Smoking loungesb | 70 | 60 | — | — |
| Toilet rooms — publicg | — | — | — | 50/70e |
| Retail stores, sales floors and showroom floors |  |  |  |  |
| Dressing rooms | — | — | — | 0.25 |
| Mall common areas | 40 | 7.5 | 0.06 | — |
| Sales | 15 | 7.5 | 0.12 | — |
| Shipping and receiving | —2 | —10 | 0.12 | — |
| Smoking loungesb | 70 | 60 | — | — |
| Storage rooms | — | — | 0.12 | — |
| Warehouses (see storage) | — | —10 | —0.06 | — |
| Specialty shops |  |  |  |  |
| Automotive motor-fuel dispensing stationsb | — | — | — | 1.5 |
| Barber | 25 | 7.5 | 0.06 | 0.5 |
| Beauty salonsb | 25 | 20 | 0.12 | 0.6 |
| Nail salons b, h | 25 | 20 | 0.12 | 0.6 |
| Embalming roomb | — | — | — | 2.0 |
| Pet shops (animal areas)b | 10 | 7.5 | 0.18 | 0.9 |
| Supermarkets | 8 | 7.5 | 0.06 | — |
| Sports and amusement |  |  |  |  |
| Bowling alleys (seating areas) | 40 | 10 | 0.12 | — |
| Disco/dance floors | 100 | 20 | 0.06 | — |
| Game arcades | 20 | 7.5 | 0.18 | — |
| Gym, stadium, arena (play area) | —7 | —20 | ~~0.30~~0.18 | — |
| Health club/aerobics room | 40 | 20 | 0.06 | — |
| Health club/weight room | 10 | 20 | 0.06 | — |
| Ice arenas without combustion engines | — | — | 0.30 | 0.5 |
| Spectator areas | 150 | 7.5 | 0.06 | — |
| Swimming pools (pool and deck area) | — | — | 0.48 | — |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Storage** |  |  |  |  |
| Repair garages, enclosed parking garagesb,d | — | — | — | 0.75 |
| Refrigerated warehouses/FreezersWarehouses | —— | 10—10 | — 0.06 | —— |
| **Theaters** |  |  |  |  |
| Auditoriums (see education) | — | — | — | — |
| Lobbies | 150 | 5 | 0.06 | — |
| Stages, studios | 70 | 10 | 0.06 | — |
| Ticket booths | 60 | 5 | 0.06 | — |
| **Transportation** |  |  |  |  |
| Platforms | 100 | 7.5 | 0.06 | — |
| Transportation waiting | 100 | 7.5 | 0.06 | — |
| **Workrooms** |  |  |  |  |
| Bank vaults/safe deposit | 5 | 5 | 0.06 | — |
| Computer (without printing) | 4 | 5 | 0.06 | — |
| Copy, printing rooms | 4 | 5 | 0.06 | 0.5 |
| Darkrooms | — | — | — | 1.0 |
| Meat processingc | 10 | 15 | — | — |
| Pharmacy (prep. area) | 10 | 5 | 0.18 | — |
| Photo studios | 10 | 5 | 0.12 | — |

 (M24-15)

"No change to Section 403.3.2.1"

Exceptions:

"No change to exception #1"

2. The minimum mechanical ventilation rate determined in accordance with Equation 4-9 shall be reduced by 30% provided that both of the following conditions apply:

2.1. A ducted system supplies ventilation air directly to each bedroom and to one or more of the following rooms:

2.1.1. Living room

2.1.2. Dining room

2.1.3. Kitchen

2.2. The whole-house ventilation system is a balanced ventilation system.

(M8326)

**Add new text as follows:**

|  |
| --- |
| **403.3.2.4 System controls.** Where provided within a dwelling unit, controls for outdoor air ventilation systems shall include text or a symbol indicating the system’s function.**403.3.2.5 Ventilating equipment.** Exhaust equipment serving single dwelling units shall be listed and labeled to provide the minimum required air flow in accordance with ANSI/AMCA 210-ANSI/ASHRAE 51. |

(M26-15)

Revise 404.1 as follows:

404.1 Enclose parking garages: Where mechanical ventilation systems for enclosed parking garages operate intermittently, such operation shall be automatic by means of carbon monoxide detectors applied in conjunction with nitrogen dioxide detectors. Carbon monoxide detectors shall be installed three to five feet above floor level and nitrogen dioxide detectors shall be installed one foot below ceiling level. Such detectors shall be listed in accordance with UL 2075 and installed in accordance with their listing and the manufacturers’ ~~recommendations~~ instructions.

(M7289 A7 Only)

**404.1   Enclosed parking garages.** ~~Where mechanical~~ Mechanical ventilation systems for enclosed parking garages shall operate ~~intermittently, such operation~~ continuously or shall be ~~automatic~~ automatically operated by means of carbon monoxide detectors applied in conjunction with nitrogen dioxide detectors. Such detectors shall be installed in accordance with their manufacturers '' recommendations.  Automatic operation shall cycle the ventilation system between the following two modes of operation:

1.Full-on at an airflow rate of not less than 0.75 cfm per square foot of the floor area served.

2. Standby at an airflow rate of not less than 0.05 cfm per square foot of the floor areaserved.

**Delete without substitution:**

**~~404.2~~ ~~Minimum ventilation.~~** ~~Automatic operation of the system shall not reduce the ventilation airflow ratebelow0.05cfm persquarefoot(0.00025m~~3~~/s•m~~2~~)ofthefloorareaandthesystem shallbecapable of producing a ventilation airflow rate of 0.75 cfm per square foot (0.0038 m~~3~~/s • m~~2~~) of floorarea.~~

(M7290) /(I-Code)

**Chapter 5 EXHAUST SYSTEMS**

**Revise as follows:**

**[F] 502.16.1 Design.** ~~Indoor~~ For indoor locations ~~shall be ventilated utilizing~~ air supply inlets and exhaust outlets for mechanical ventilation shall be arranged to provide ~~uniform~~ uniformly distributed air movement ~~to the extent practical. Inlets shall be~~ with inlets uniformly arranged on ~~exterior~~ walls near floor level~~. Outlets shall be~~ and outlets located at the high point of the room

in ~~exterior~~ walls or the roof.

~~Ventilation shall be by a continuous mechanical ventilation system or by a mechanical ventilation system activated by a~~ ~~continuously monitoring natural gas detection system, or for hydrogen, a continuously monitoring flammable gas detection system,~~ ~~each activating at a gas concentration of 25 percent of the lower flammable limit (LFL). In all cases, the system shall shut down the~~ ~~fueling system in the event of failure~~ Failure of the ventilation system shall cause the fueling system to shut down.

The exhaust ventilation rate shall be not less than 1 cubic foot per minute [0.03 m3/minute] per 12 cubic feet [~~0.00138~~ ~~m~~0.34m3~~/(s • m~~3)] of room volume.

(F75-16)

**[F] 502.16 Repair garages for ~~natural gas and hydrogen fueled~~ vehicles fueled by lighter-than-air fuels.** Repair garages used for the conversion and repair of vehicles which use CNG, liquefied natural

gas (LNG), hydrogen or ~~hydrogen-fueled vehicles~~ other lighter-than-air motor fuels shall be provided with an *approved* mechanical exhaust ventilation system. The mechanical exhaust ventilation system shall be in accordance with Sections 502.16.1 ~~and~~ or 502.16.2 as applicable.

**~~Exception~~ Exceptions:**~~Where~~ *~~approved~~* ~~by the code official,~~ *~~natural ventilation~~* ~~shall be permitted in~~ ~~lieu of mechanical ventilation.~~

1. Repair garages where work is not performed on the fuel system and is limited to exchange of parts and maintenance not requiring open flame or welding on the CNG-, LNG-, hydrogen- or other lighter-than-air-fueled motor vehicle.

2. Repair garages for hydrogen-fueled vehicles where work is not performed on the hydrogen storage tank and is limited to the exchange of parts and maintenance not requiring open flame or welding on the hydrogen-fueled vehicle. During the work, the entire hydrogen fuel system shall contain a quantity that is less than 200 cubic feet (5.6 m3) of hydrogen.

***Add new text as follows:***

**[F] 502.16.1 Repair garages used for the repair of hydrogen-fueled vehicles** Repair garages used for the repair of hydrogen-fueled vehicles shall be provided with an approved exhaust ventilation system in accordance with this code and Chapter 6 of NFPA 2.

**[F] 502.16.2 Exhaust ventilation system** Repair garages used for the repair of CNG, liquefied natural gas (LNG), or other lighter-than-air motor fuels other than hydrogen shall be provided with an approved mechanical exhaust ventilation system. The mechanical exhaust ventilation system shall be in accordance with this code and Sections 502.16.2.1 and 502.16.2.2.

**Exception:** Where approved by the code official, natural ventilation shall be permitted in lieu of mechanical exhaust ventilation.

***Revise as follows:***

**[F] ~~502.16.1~~502.16.2.1 Design.** Indoor locations shall be ~~ventilated~~ exhausted utilizing air supply inlets and exhaust outlets arranged to provide uniform air movement to the extent practical. Inlets shall be uniformly arranged on ~~exterior~~ walls near floor level. Outlets shall be located at the high point of the room in ~~exterior~~ walls or the roof.

~~Ventilation~~ Exhaust ventilation shall be by a continuous mechanical exhaust ventilation system or by a mechanical exhaust ventilation system activated by a continuously monitoring natural gas detection system, ~~or for hydrogen, a continuously monitoring flammable gas detection system, each~~ activating at a gas concentration of 25 percent of the lower flammable limit (LFL). In all cases, the system shall shut down the fueling system in the event of failure of the exhaust ventilation system.

The exhaust ventilation rate shall be not less than 1 cubic foot per minute per 12 cubic feet [0.00138 m3/(s • m3)] of room volume.

 **[F] ~~502.16.2~~ 502.16.2.2 Operation.** The mechanical exhaust ventilation system shall operate continuously.

**Exceptions:**

1. Mechanical exhaust ventilation systems that are interlocked with a gas detection system designed in accordance with the *International Fire Code*.

2. Mechanical exhaust ventilation systems in garages that are used only for the repair of vehicles fueled by liquid fuels or odorized gases, such as CNG, where the exhaust ventilation system is electrically interlocked with the lighting circuit.

(F274-16)

Add 504.4.1 to read as follows:

**504.4.1 Exhaust termination outlet and passageway size.** The passageway of dryer exhaust duct terminals shall be undiminished in size and shall provide an open area of not less than 12.5 square inches (8,065 sq mm).

(M7294) /(I-Code)

**504.8.2 Duct installation.** Exhaust ducts shall be supported at 4-foot (1219 mm) intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/ 8 inch (3.2 mm) into the inside of the duct. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

(M42-15)

**504.10 Common exhaust systems for clothes dryers located in multistory structures.** Where a common multistory duct system is designed and installed to convey exhaust from multiple clothes dryers, the construction of the system shall be in accordance with all of the following:

1. The shaft in which the duct is installed shall be constructed and fire-resistance rated as required by the *International Building Code*.

2. Dampers shall be prohibited in the exhaust duct. Penetrations of the shaft and ductwork shall be protected in accordance with Section 607.5.5, Exception 2.

3. Rigid metal ductwork shall be installed within the shaft to convey the exhaust. The ductwork shall be constructed of sheet steel having a minimum thickness of 0.0187 inch (0.4712 mm)(No. 26 gage) and in accordance with SMACNA *Duct Construction Standards*.

4. The ductwork within the shaft shall be designed and installed without offsets.

5. The exhaust fan motor design shall be in accordance with Section 503.2.

6. The exhaust fan motor shall be located outside of the airstream.

7. The exhaust fan shall run continuously, and shall be connected to a standby power source in accordance with Section 2702 of the *Florida Building Code, Building*.

8. Exhaust fan operation shall be monitored in an *approved* location and shall initiate an audible or visual signal when the fan is not in operation.

9. Makeup air shall be provided for the exhaust system.

10. A cleanout opening shall be located at the base of the shaft to provide *access* to the duct to allow for cleaning and inspection. The finished opening shall be not less than 12 inches by 12 inches (305 mm by 305 mm).

11. Screens shall not be installed at the termination.

12. The common multistory duct system shall serve only clothes dryers and shall be independent of other exhaust systems.

(G36-16)

**505.3 Common exhaust systems for domestic kitchens located in multistory structures.** Where a common multistory duct system is designed and installed to convey exhaust from multiple domestic kitchen exhaust systems, the construction of the system shall be in accordance with all of the following:

1. The shaft in which the duct is installed shall be constructed and fire-resistance rated as required by the *International Building Code*.

2. Dampers shall be prohibited in the exhaust duct, except as specified in Section 505.1. Penetrations of the shaft and ductwork shall be protected in accordance with Section 607.5.5, Exception 2.

3. Rigid metal ductwork shall be installed within the shaft to convey the exhaust. The ductwork shall be constructed of sheet steel having a minimum thickness of 0.0187 inch (0.4712 mm)(No. 26 gage) and in accordance with SMACNA *Duct Construction Standards*.

4. The ductwork within the shaft shall be designed and installed without offsets.

5. The exhaust fan motor design shall be in accordance with Section 503.2.

6. The exhaust fan motor shall be located outside of the airstream.

7. The exhaust fan shall run continuously, and shall be connected to a standby power source in accordance with Section 2702 of the *Florida Building Code*, Building.

8. Exhaust fan operation shall be monitored in an approved location and shall initiate an audible or visual signal when the fan is not in operation.

9. Where the exhaust rate for an individual kitchen exceeds 400 cfm (0.19 m3/s) makeup air shall be provided in accordance with Section 505.2.

10. A cleanout opening shall be located at the base of the shaft to provide access to the duct to allow for cleanout and inspection. The finished openings shall be not less than 12 inches by 12 inches (305 mm by 305 mm).

11. Screens shall not be installed at the termination.

12. The common multistory duct system shall serve only kitchen exhaust and shall be independent of other exhaust systems.

(G36-16)

**506.3.13.2. Termination through an exterior wall.** Exhaust outlets shall be permitted to terminate through exterior walls where the smoke, grease, gases, vapors and odors in the discharge from such terminations do not create a public nuisance or a fire hazard. Such terminations shall not be located where protected openings are required by the *Florida Building Code*. ~~Other exterior openings~~ Such terminations shall be located in accordance with Section 506.3.13.3 and shall not be located within 3 feet ~~(914 mm)~~ of ~~such terminations~~ any opening in the exterior wall.

(M7319) (M7320) /(I-Code)

***Add new text as follows:***

**506.5.2 Pollution Control Units.** The Installation of pollution control units shall be ~~installed~~ in accordance with the manufacturer's installation instructions and ~~shall be in accordance with~~ all of the following:

1. Pollution control units shall be listed and labeled in accordance with UL 1978.

2. Fans serving pollution control units shall be listed and labeled in accordance ith with UL 762. 3.

3. Pollution control units shall be mounted and secured in accordance with the manufacturer's

installation instructions and the International Building Code.

4. Pollution control units located indoors shall be listed and labeled for such use. Where enclosed duct systems, as required by Section 506.3.11, are connected to a pollution control unit, such unit shall be located in a room or space having the same fire-resistance rating as the duct enclosure. Access shall be provided for servicing and cleaning of the unit. The space or enclosure shall be ventilated in accordance with the manufacturer's installation instructions.

5. A clearance of not less than 18 inches (457 mm) shall be maintained between the pollution control unit and combustible material.

6. Roof mounted pollution control units shall be listed for exterior installation and shall be mounted not less than 18 inches (457 mm) above the roof.

7. Exhaust outlets for pollution control units shall be in accordance with Section 506.3.13.

8. An airflow differential pressure control shall be provided to monitor the pressure drop across the filter sections of a pollution control unit. When the airflow is reduced below the design velocity, the airflow differential pressure control shall activate a visual alarm located in the area where cooking operations occur.

9. Pollution control units shall be provided with a factory installed fire suppression system. 10. Service space shall be provided in accordance with the manufacturer's instructions for the pollution control unit and the requirements of Section 306.

11. Wash down drains shall discharge through a grease interceptor and shall be sized for the flow. Drains, shall be sealed with a trap or other approved means to prevent air bypass. Where a trap is utilized it shall have a seal depth that accounts for the system pressurization and evaporation between cleanings.

12. Protection from freezing shall be provided for the water supply and fire suppression systems

where such systems are subject to freezing.

13. Duct connections to pollution control units shall be in accordance with Section 506.3.2.3. Where water splash or carryover can occur in the transition duct as a result of a washing operation, the transition duct shall slope downward toward the cabinet drain pan for a length not less than 18 inches (457 mm). Ducts shall transition to the full size of the units inlet and outlet openings.

14. Extra heavy duty appliance exhaust systems shall not be connected to pollution control units except where such units are specifically designed and listed for use with solid fuels.

15. Pollution control units shall be maintained in accordance with the manufacturer's instructions.

**506.5.~~2~~ 3 Exhaust fan discharge.** No change to the remaining text

**506.5.~~3~~ 4 Exhaust fan mounting**. No change to the remaining text

**506.5.~~4~~ 5 Clearances.** No change to the remaining text

**506.5.~~5~~ 6 Termination location.** No change to the remaining text

 (M51-15 AMPC2)

**507.2.6 Clearances for Type I hood.** (No change)

**Exceptions:**

1.       *Clearance* shall not be required from gypsum wallboard or ½-inch (12.7 mm) or thicker cementitious wallboard attached to noncombustible structures provided that a smooth, cleanable,nonabsorbentandnoncombustiblematerialisinstalledbetweenthehoodandthe gypsum or cementitious wallboard over an area extending not less than 18 inches (457 mm) in all directions from the hood.

2.       Type I hoods listed and labeled for clearances less than 18 inches in accordance with UL710 shall be installed with the clearances specified by such listings.

(M7321) /(I-Code)

**510.8.1 Duct cleanout.** Ducts conveying combustible dust as part of a dust collection system shall be equipped with cleanouts that are provided with approved access, pre-designed to be disassembled for cleaning, or engineered for automatic cleanouts. Where provided, cleanouts shall be located at the base of each vertical duct riser and at intervals not exceeding 20 foot in horizontal sections of duct.

(M7323) /(I-Code)

**512.2 Materials.**

Subslab soil exhaust system duct material shall be air duct material *listed* and *labeled* to the requirements of UL 181 for Class 0 air ducts, or any of the following piping materials that comply with the *Florida Building Code, Plumbing* as building sanitary drainage and vent pipe: cast iron; galvanized steel; brass or, copper and copper alloy pipe; ~~copper~~ and tube of a weight not less than ~~that of copper drainage tube, Type~~ type DWV; and plastic piping.

(M7324 G1)

**Chapter 6 DUCT SYSTEMS**

Revise as follows:

**601.5 Return air openings.** Return air openings for heating, ventilation and air-conditioning systems shall comply with all of the following:

7. Return air shall not be taken from a closet, ~~bathroom~~, toilet room, kitchen, garage, boiler room, furnace room or unconditioned attic.

Exceptions:

3.   Taking return air from a closet is not prohibited where such return air taken from closets shall serve only the closet and may be taken from closets that have no dedicated supply duct. Where return air is taken from a closet smaller than 30 ft2 (2.8 m2) the return air shall be no more than 30 cfm (15 l/s), shall serve only the closet, and shall not require a dedicated supply duct. Where return air is taken from a closet smaller than 30 ft2 (2.8 m2) the closet door shall be undercut a minimum of 1.5 inches (38 mm) or the closet shall include a louvered door or transfer grille with a minimum net free area of 30 inch2 (194 cm2).

(M8320/M8325)

**602.2.1.1   Wiring.** Combustible electrical wires and cables and optical fiber cables exposed within a plenum shall be listed and labeled as having a ~~maximum~~ peak optical density ~~of~~ not greater than 0.50 ~~or less~~, an average optical density ~~of~~ not greater than 0.15 ~~or less~~, and a ~~maximum~~ flame spread distance ~~of~~ not greater than 5 feet (1524 mm) ~~or less~~ when tested in accordance with NFPA 262 or shall be installed in metal raceways or metal sheathed cable. Combustible optical fiber and communication raceways exposed within a plenum shall be listed and labeled as having a ~~maximum~~ peak optical density ~~of~~ not greater than 0.5 ~~or less~~, an average optical density ~~of~~ not greater than 0.15 ~~or less~~, and a ~~maximum~~ flame spread distance ~~of~~ not greater than 5 feet (1524 mm) ~~or less~~ when tested in accordance with ~~ANSI/~~UL 2024. Only plenum-rated wires and cables shall be installed in plenum-rated raceways. ~~Electrical wires and cables, optical fiber cables and raceways addressed in this section shall be listed and labeled and shall be installed in accordance with NFPA70.~~

**602.2.1.2 Fire sprinkler piping.** Plastic fire sprinkler piping exposed within a *~~plenum~~* plenum shall be used only in wet pipe systems and shall ~~have~~ be listed and labeled as having a peak optical density not greater than 0.50, an average optical density not greater than 0.15, and a flame spread ~~of~~ distance not greater than 5 feet (1524 mm) when tested in accordance with UL 1887. ~~Piping shall be~~ *~~listed~~* ~~and~~ *~~labeled~~*~~.~~

**602.2.1.3 Pneumatic tubing.**Combustible pneumatic tubing exposed within plenum shall ~~have~~ be listed and labeled as having a peak optical density not greater than 0.50, an average optical density not greater than 0.15, and a flame spread ~~of~~ distance not greater than 5 feet (1524 mm) when tested in accordance with UL 1820. ~~Combustible pneumatic tubing shall be~~ *~~listed~~* ~~and~~ *~~labeled~~*

(M7344) /(I-Code)

**~~602.2.1.6 Foam plastic insulation.~~** ~~Foam plastic insulation used in plenums as interior wall or ceiling finish or as interior trim shall exhibit a flame spread index of 75 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E 84 or UL 723 and shall also comply with one or more of Sections 602.2.1.6.1, 602.2.1.6.2 and 602.2.1.6.3.~~

**Add new text as follows:**

**602.2.1.6     Foam plastic in plenums as interior finish or interior trim.** Foam plastic in plenums used as interior wall or ceiling finish or interior trim, shall exhibit a flame spread index of 25 or less and a smoke-developed index of 50 or less when tested in accordance with ASTM E84 or UL 723 at the maximum thickness and density intended for use, and shall be tested in accordance with NFPA286 and meet the acceptance criteria of Section 803.1.2 of the *Florida Building Code*

**Exceptions:**

1.       Foam plastic in plenums used as interior wall or ceiling finish or interior trim, shall exhibit a flame spread index of 75 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84 or UL 723 at the maximum thickness and density intended for use, where it is separated from the airflow in the plenum by a thermal barrier complying with Section 2603.4 of the *Florida  Building Code*.

2.       Foam plastic in plenums used as interior wall or ceiling finish or interior trim, shall exhibit a flame spread index of 75 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84 or UL 723 at the maximum thickness and density intended for use, where it is separated from the airflow in the plenum by corrosion-resistant steel having a base metal thickness of not less than 0.0160 inch (0.4mm).

3.       Foam plastic in plenums used as interior wall or ceiling finish or interior trim, shall exhibit a flame spread index of 75 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84 or UL 723 at the maximum thickness and density intended for use, where it is separated from the airflow in the plenum by not less than a 1 inch (25mm) thickness of masonry orconcrete.

**Delete without substitution:**

**~~602.2.1.6.1   Separation required.~~** ~~The foam plastic insulation shall be separated from the plenum by a thermal barrier complying with Section 2603.4 of the~~ *~~Florida Building Code~~* ~~and shall exhibit a flame spread index of 75 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E 84 or UL 723 at the thickness and density intended foruse.~~

**~~602.2.1.6.2   Approval.~~**~~The foam plasticinsulationshallexhibitaflamespreadindexof25orlessanda smoke-developed index of 50 or less when tested in accordance with ASTM E 84 or UL 723 at the thickness and density intended for use and shall meet the acceptance criteria of Section 803.1.2of~~ ~~the~~ *~~Florida Building Code~~* ~~when tested in accordance with NFPA 286.~~

(M7346) /(I-Code)

**602.2.1.7 Plastic plumbing ~~pipe~~ piping and ~~tube~~ tubing**

Plastic piping and tubing used in plumbing systems shall be listed and labeled as having ~~and shall exhibit~~ a flame spread index of not ~~more~~ greater than 25 and a smoke-developed index of not more than 50 when tested in accordance with ASTM E84 or UL 723.

**Exception:** Plastic water distribution piping and tubing listed and labeled in accordance with UL2846 as having a peak optical density not greater than 0.50, an average optical density not greater than 0.15, and a flame spread distance not greater than 5 feet (1524 mm), and installed in accordance with its listing.

(M7386) /(I-Code)

**602.2.1.8 Pipe and duct insulation within plenums.** Pipe and duct insulation contained within plenums, including insulation adhesives, shall have a flame spread index of not more than 25 and a smoke developed index of not more than 50 when tested in accordance with ASTM E84 or UL 723, using the specimen preparation and mounting procedures of ASTME 2231. Pipe and duct insulation shall not flame, glow, smolder or smoke when tested in accordance with ASTM C411 at the temperature at which they are exposed in service. The test temperature shall not fall below 250ºF (121ºC) . Pipe and duct insulation shall be listed and labeled.

(M7387) /(I-Code)

**603.5.2 Phenolic ducts.** Nonmetallic phenolic ducts shall be constructed in accordance with the SMACNA Phenolic Duct Construction Standards.

(M7388) /(I-Code)

**603.8.2 Sealing.** Ducts shall be sealed ~~and,~~ secured and tested prior to ~~pouring the~~ to concrete encasement or direct burial. Ducts shall be leak tested as required by Section C403 of the *Florida Energy Conservation Code*

(M7389) /(I-Code)

**604.11 Vapor retarders.**

Where ducts used for cooling are externally insulated, the insulation shall be covered with a vapor retarder having a maximum permeance of 0.05 perm [2.87 ng/(Pa • s • m2)] or aluminum foil having a minimum thickness of 2 mils (0.051 mm). Insulations having a permeance of 0.05 perm [2.87 ng/(Pa • s • m2 )] or less shall not be required to be covered. All joints and seams shall be sealed to maintain the continuity of the vapor retarder.

**Exception:** A vapor retarder is not required for spray polyurethane foam insulation having a water vapor permeance of not greater than of 3 perm per inch [1722 ng/(s · m2 · Pa)] at the installed thickness.

(M7394) /(I-Code)

**607.4 Access and identification.**

~~Fire~~ Access and identification of fire and smoke dampers shall ~~be provided with an~~*~~approved~~*~~means of access, large enough to permit inspection and maintenance of the damper and its operating parts. The access shall not affect the integrity of fire-resistance-rated assemblies. The access openings shall not reduce the fire-resistance rating of the assembly. Access points shall be permanently identified on the exterior by a label having letters not less than 0.5 inch (12.7 mm) in height reading: FIRE/SMOKE DAMPER, SMOKE DAMPER or FIRE DAMPER. Access doors in ducts shall be tight fitting and suitable for the required duct construction~~ comply with Sections 607.4.1 through 607.4.2.

**607.4.1 Access** Fires and smoke dampers shall be provided with an approved means of access that is large enough to permit inspection and maintenance of the damper and its operating parts. Dampers equipped with fusible links, internal operators, or both shall be provided with an access door that is not less than 12 inches (305 mm) square or provided with a removable duct section.

607.4.1.1 The access shall not affect the integrity of fire-resistance-rated assemblies. The access openings shall not reduce the fire-resistance-rating of the assembly. Access doors in ducts shall be tight fitting and suitable for the required duct construction.

**607.4.1.2 Restricted Access** Where space constraints or physical barriers restrict access to a damper for periodic inspection and testing, the damper shall be a single- or multi-blade damper and shall comply with the remote inspection requirements of NFPA 80 or NFPA 105.

**607.4.2 Identification** Access points shall be permanently identified on the exterior of a label having letters not less than 1/2 inch (12.7 mm) in height reading: FIRE/SMOKE DAMPER, SMOKE DAMPER or FIRE DAMPER.

(M7936)

**CHAPTER 7 COMBUSTION AIR**

No change

**Chapter 8 CHIMNEYS AND VENTS**

Add 805.8 as follows:

**805.8 Insulation shield** Where factory-built chimneys pass through insulated assemblies, an insulation shield constructed of steel having a thickness of not less than 0.0187 inch (0.4712 mm) (No. 26 gage) shall be installed to provide clearance between the chimney and the insulation material. The clearance shall be not less than the clearance to combustibles specified by the chimney manufacturer's installation instructions. Where chimneys pass through attic space, the shield shall terminate not less than 2 inches (51 mm) above the insulation materials and shall be secured in place to prevent displacement. Insulation shields provided as part of a *listed* chimney system shall be installed in accordance with the manufacturer's instructions.

(M7395) /(I-Code)

**Chapter 9 SPECIFIC APPLIANCES, FIREPLACES AND SOLID FUEL-BURNING EQUIPMENT**

Revise as follows:

**Modify proposal as follows:**

**916.1 General.** Pool and spa heaters shall be installed in accordance with the manufacturer's instructions. Oil-fired pool and spa heaters shall be tested in accordance with UL 726. Electric pool and spa heaters shall be tested in accordance with UL 1261. Pool and spa heat pump water heaters shall comply with UL 1995, or CSA C22.2 No. 236.

**Exception:** Portable residential spas and portable residential exercise spas shall comply with UL 1563 or CSA C22.2 No. 218.1.

(M104-15 AM)

SECTION 929

LARGE-DIAMETER CEILING FAN

929.1 General. Where provided, large-diameter ceiling fans shall be tested and labeled in accordance with AMCA 230-15, listed and labeled in accordance with UL 507-14, and installed in accordance with the manufacturer’s instructions.

(M7839) /(I-Code)

**CHAPTER 10 BOILERS, WATER HEATERS AND PRESSURE VESSELS**

No change

**Chapter 11 REFRIGERATION**

Revise as follows:

**1105.6.3 Ventilation rate.** For other than ammonia systems, the mechanical ventilation systems shall be capable of exhausting the minimum quantity of air both at normal operating and emergency conditions, as required by Sections 1105.6.3.1 and 1105.6.3.2. The minimum required emergency ventilation rate for ammonia shall be 30 air changes per hour in accordance with IIAR2. Multiple fans or multispeed fans shall be allowed to produce the emergency ventilation rate and to obtain a reduced airflow for normal ventilation.

(M124-15)

**1107.5.2 Copper and brass copper-alloy pipe.** Standard iron-pipe size, brass, copper and ~~red , brass~~ copper alloy (not less than 80-percent copper)  shall conform to ASTM B 42 and ASTM B 43

(M7492 G1) /(I-Code)

**(Check)**

**Chapter 12 HYDRONIC PIPING**

Revise as follows:

**1203.8 Copper or copper-alloy tubing.**

Joints between copper or copper-alloy tubing or fittings shall be brazed, mechanical or soldered joints conforming to Section 1203.3, flared joints conforming to Section 1203.8.1, push-fit joints conforming to Section 1203.8.2 or press-connect type joints conforming to Section 1203.8.3

**1203.8.3Press-connect joints.**

*Press-connect joints* shall be installed in accordance with the manufacturer’s instructions.

(M8007) /(I-Code)

Add new standard(s) as follows:

 (M7572) /(I-Code)

**1208.1 General**

Hydronic piping systems shall be tested hydrostatically at one and one-half times the maximum system design pressure, but not less than 100 psi (689 kPa). The duration of each test shall be not less than 15 minutes.

 **EXCEPTIONS:**

1.) With trap seal pull testing, where a completed DWV system is vacuum tested with all of its traps filled with water, and the trap seals are tested with a vacuum typically between one and two inches of water column.

2.) For plastic piping systems specifically designed for use with compressed air or gasses;

• Manufacturers' instructions must be strictly followed for installation, visual inspection, testing and use of the systems, (and)

• Compressed air or other gas testing is not prohibited by the authority having jurisdiction (AHJ).

    3.) When compressed air or other gas pressure testing is specifically authorized by the applicable written instructions of the manufacturers of all plastic pipe and plastic pipe fittings products installed at the time the system is being tested and compressed air or other gas testing is not prohibited by the authority having jurisdiction (AHJ).

The manufacturer should be contacted if there is any doubt as to how a specific system should be tested.

(M8008)

**1209.3 Embedded Joints.**

Joints of pipe or tubing that are embedded in a portion of the building, such as concrete or plaster, shall be in accordance with the requirements of Sections 1209.3.1 through 1209.3.~~4~~ 5.

Add new section:

**1209.3.5 Cross-linked polyethylene (PEX) joints.**

PEX tubing shall be installed in continuous lengths or shall be joined by hydronic fittings listed in Table 1202.5.

(M8011) /(I-Code)

Chapter 13

Revise as follows:

**1303.1.1 Joints between different piping materials.**

Joints between different piping materials shall be made with approved adapter fittings. Joints between different metallic piping materials shall be made with approved dielectric fittings or brass and copper-alloy converter fittings.

(M8030 G1+G2) /(I-Code)

**Chapter 14 SOLAR SYSTEMS**

Revise as follows:

**1402.4 Roof-mounted collectors.**

Roof-mounted solar collectors that also serve as a roof covering shall conform to the requirements for roof coverings in accordance with the *Florida Building Code, Building*.

    **Exception:** The use of plastic solar collector covers shall be limited to those *approved light transmitting* plastics meeting the requirements for plastic roof panels in the *Florida Building Code, Building*.

**1402.4.1 Collectors mounted above the roof.**

Where mounted on or above the roof covering, the collector array and supporting construction shall be constructed of noncombustible materials or fire-retardant-treated wood conforming to the *Florida Building Code, Building* to the extent required for the type of roof construction of the building to which the collectors are accessory.

**Exception:** The use of plastic solar collector covers shall be limited to those *approved light transmitting* plastics meeting the requirements for plastic roof panels in the *Florida Building Code, Building*.

(M8034)

**CHAPTER 15 Reference Standards**

See attached