**Supplement to the 8th Edition (2023) FBC, Plumbing.**

**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**

**Original Mod -**

**Revise as follows:**

**TOILET FACILITY.** A room or space that contains not less than one water closet and one lavatory.

**Multiple-user toilet facility.**

**.**

A toilet facility intended to be used by multiple occupants. Such facilities have more than one water closet and one lavatory. Each water closet is located in its own compartment that is created by vertical partitions.

**Single-user toilet facility**

**.**

A toilet facility intended to be used by a single occupant and that contains not less than one water closet and one lavatory.

**FAMILY OR ASSISTED-USE TOILET FACILITY**. A room separate from other toilet facilities intended to be used by all persons regardless of sex, families and those needing assisted care having; an independent entrance, not more than one adult height water closet, not more than one adult-height lavatory, and is permitted to have one urinal, one child height water closet and one child height lavatory.

**FAMILY OR ASSISTED-USE BATHING ROOM.** A room separate from other bathing rooms intended to be used by

all persons regardless of sex, families and those needing assisted care having; an independent entrance, not more than one

shower or bathtub, not more than one adult-height water closet and one adult-height lavatory, and is permitted to have one urinal, one child height water closet and one child height lavatory.

(P10885 / P5-21 Part I AM)

**[BG] AMBULATORY CARE FACILITY**

**.**

Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to persons who are rendered incapable of self-preservation by the services provided or staff has accepted responsibility for care recipients already incapable.

(P10831 / G3-21 Part III AS)

Revise as follows:

COPPER ALLOY. A homogenous mixture of two or more metals ~~alloy where the principle~~ in which copper is the primary component ~~is copper~~, such as brass and bronze.

(P10885 / P5-21 Part I AM/P3-21)

**CHAPTER 3 GENERAL REGULATIONS**

**305.8 Expansive Soil.**

Where expansive soil is identified under buildings in accordance with Section 1803.5.3 of the International Building Code, but not removed in accordance with Section 1808.6.3 of the International Building Code, plumbing shall be protected in accordance with Section 305.8.1 or 305.8.2.

**305.8.1 Non-Isolated Foundations.** Under foundations with slabs that are structurally supported by a subgrade, it shall be permitted for plumbing to be buried.

305.8.2 Isolated Foundations.

Under foundations with a slab or framing that structurally spans over an under-floor space which isolates the slabor framing from the effects of expansive soil swelling and shrinking in accordance with Section 1808.6.1 of the International Building Code, the plumbing shall be suspended so that plumbing, hangers and supports are isolated, by a voidspace, from the effects of expansive soil swelling and shrinking.

**Exception:** It shall be permitted for plumbing to be buried if the plumbing provides drainage of an under-floor space.

To protect the voidspace, soil shall be sloped, benched or retained in accordance with an approved design methodology. It shall not be permitted for the plumbing, hangers and supports below the slab or below the framing to be in contact with soil or any assemblage of materials that is in contact with soil within the active zone. It shall not be permitted for a slab and plumbing to be lifted as an assembly to create the voidspace unless the under-floor space is a crawlspace with access to allow inspection of plumbing after lifting.

**Exception:** It shall be permitted for the piping, fittings, hangers, and supports below the slab or below the framing to be in contact with structural elements of the foundation that are designed to resist the effects of expansive soil swelling and shrinking in accordance with Section 1808.6.1 of the International Building Code.

Organic materials subject to decay shall not be used for hangers, supports and soil retention systems. Materials subject to corrosion shall not be used for hangers, supports and soil retention systems unless protected in an approved manner.

Where plumbing transitions to a buried condition beyond the perimeter of the foundation, an adequately flexible expansion joint shall be provided in the plumbing system to accommodate the effects of expansive soil swelling and shrinking.

(P10889 / P8-21 AM)

**~~307.2 Cutting, notching or bored holes.~~** ~~A framing member shall not be cut, notched or bored in excess of limitations~~

~~specified in the~~ *~~Florida Building Code, Building~~*~~.~~

**307.2 Cutting, notching and boring in wood framing.** The cutting, notching and boring of structural wood framing members shall comply

with Section ~~2308.6~~ 2301.4 of the *Florida Building Code, Building.*

**Add new text as follows:**

**307.3 Cutting, and notching in cold-formed steel framing.** The cutting, and notchingof holes in cold-formed steel framing members shall be in accordance with AISI S240 for structural members and AISI S220 for non-structural members

**Delete without substitution:**

**APPENDIX C STRUCTURAL SAFETY**

**~~[BS] C101.1 Joist notching~~.** ~~Notches on the ends of joists shall not exceed one-fourth the joist depth. Holes bored in joists shall not be~~ ~~within 2 inches (51 mm) of the top or bottom of the joist, and the diameter of any such hole shall not exceed one-third the depth of the joist.~~ ~~Notches in the top or bottom of joists shall not exceed one-sixth the depth and shall not be located in the middle third of the span.~~

**~~[BS] C101.2 Stud cutting and notching~~.** ~~In exterior walls and bearing partitions, a wood stud shall not be cut or notched in excess of 25~~ ~~percent of its depth. In nonbearing partitions that do not support loads other than the weight of the partition, a stud shall not be cut or~~ ~~notched in excess of 40 percent of its depth.~~

**~~[BS] C101.3 Bored holes~~.** ~~The diameter of bored holes in wood studs shall not exceed 40 percent of the stud depth. The diameter of bored~~ ~~holes in wood studs shall not exceed 60 percent of the stud depth in nonbearing partitions. The diameter of bored holes in wood studs shal~~l ~~not exceed 60 percent of the stud depth in any wall where each stud is doubled, provided that not more than two such successive doubled~~ ~~studs are so bored. The edge of the bored hole shall be notcloser than~~ 5/~~8 inch (15.9 mm) to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch.~~

**~~[BS] C101.5 Cutting, notching and boring holes in cold-formed steel framing~~.** ~~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 steel 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.~~

**~~[BS] C101.6 Cutting, notching and boring holes in nonstructural cold-formed steel wall framing~~.** ~~Flanges and lips of nonstructura~~l ~~cold-formed steel wall studs shall not be cut or notched. Holes in webs of nonstructural 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.~~

**Florida Building Code - Building**

**~~2308.6~~ 2301.4 Cutting, notching and boring of dimensional wood framing.** The provisions of this section shall only apply to dimensional

wood framing and shall not include engineered wood products, heavy timber or prefabricated/manufactured wood assemblies.

**~~2308.6.1~~** **2301.4.1 Floor joists, roof rafters and ceiling joists.** Notches on framing ends shall not exceed one-fourth the member depth.

Notches in the top or bottom of the member shall not exceed one-sixth the depth and shall not be located in the middle third of

the span. A notch not more than one-third of the depth is permitted in the top of a rafter or ceiling joist not further from the face of

the support than the depth of the member. Holes bored in members shall not be within 2 inches (51 mm) of the top or bottom of

the member and the diameter of any such hole shall not exceed one-third the depth of the member. Where the member is

notched, the hole shall not be closer than 2 inches (51 mm) to the notch.

**~~2308.6.1.1~~ 2301.4.1.1 Ceiling joists.** Where ceiling joists also serve as floor joists, they shall be considered floor joists within this section.

**~~2308.6.2~~ 2301.4.2 Wall studs.** In exterior walls and bearing partitions, a wood stud shall not be cut or notched in excess of 25 percent of its

depth. In nonbearing partitions that do not support loads other than the weight of the partition, a stud shall not be cut or notched

in excess of 40 percent of its depth.

**~~2308.6.3~~ 2301.4.3 Bored holes.** The diameter of bored holes in wood studs shall not exceed 40 percent of the stud depth. The diameter of

bored holes in wood studs shall not exceed 60 percent of the stud depth in nonbearing partitions. The diameter of bored holes in

wood studs shall not exceed 60 percent of the stud depth in any wall where each stud is doubled, provided that not more than

two such successive doubled studs are so bored. The edge of the bored hole shall not be closer than 5/8 inch (15.9 mm) to the edge

of the stud. Bored holes shall not be located at the same section of stud as a cut or notch.

**~~2308.6.4~~ 2301.4.4 Limitations.** In designated lateral force-resisting system assemblies designed in accordance with this code and greater

than three *stories* in height ~~or in~~ *~~Seismic Design Categories~~* ~~C, D, E and F~~, the cutting, notching and boring of wall studs shall be as

prescribed by the *registered design professional*. In *structures* designed in accordance with the *Florida Building Code, Residential* , modification of wall studs shall comply with the *Florida Building Code Residentia*.

(P11086 / S196-22 AM)/ (P11087 / S224-22 AS)

TABLE 308.5 HANGER SPACING

Portions of table not shown remain unchanged.

|  |  |  |
| --- | --- | --- |
| **PIPING MATERIAL** | **MAXIMUM HORIZONTAL SPACING (feet)** | **MAXIMUM VERTICAL SPACING (feet)** |
| Acrylonitrile butadiene styrene (ABS) pipe | 4 | 10b |
| Aluminum tubing | 10 | 15 |
| Brass pipe | 10 | 10 |
| Cast-iron pipe | 5a | 15 |
| Chlorinated polyvinyl chloride (CPVC) pipe and tubing, 1 inch and smaller | 3 | 10b |
| Chlorinated polyvinyl chloride (CPVC) pipe and tubing, 11/4 inches and larger | 4 | 10b |
| Copper or copper-alloy pipe | 12 | 10 |
| Copper or copper-alloy tubing, 11/4-inch diameter and smaller | 6 | 10 |
| Copper or copper-alloy tubing, 11/2-inch diameter and larger | 10 | 10 |
| Cross-linked polyethylene (PEX) pipe, 1 inch and smaller | 2.67 (32 inches) | 10b |
| Cross-linked polyethylene (PEX) pipe, 11/4 inches and larger | 4 | 10b |
| Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe | 2.67 (32 inches) | 4 |
| Lead pipe | Continuous | 4 |
| Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe | 2.67 (32 inches) | 4 |
| Polyethylene of raised temperature (PE-RT) pipe, 1 inch and smaller | 2.67 (32 inches) | 10b |
| Polyethylene of raised temperature (PE-RT) pipe, 11/4 inches and larger | 4 | 10b |
| Polypropylene (PP) pipe or tubing, 1 inch and smaller | 2.67 (32 inches) | 10b |
| Polypropylene (PP) pipe or tubing, 11/4 inches and larger | 4 | 10b |
| Polyvinyl chloride (PVC) pipe | 4 | 10b |
| Stainless steel drainage systems | 10 | 10b |
| Steel pipe | 12 | 15 |

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

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

b. For sizes 2 inches and smaller, a guide shall be installed midway between required vertical supports. Such guides shall prevent pipe movement in a direction perpendicular to the axis of the pipe

(P10897 / P10-21 AS)

**SECTION 310**

**~~WASHROOM AND~~ TOILET FACILITIES** **~~ROOM~~ REQUIREMENTS**

**310.1 Light and ventilation.** ~~Washrooms and toilet rooms~~ Toilet facilities shall be illuminated and ventilated in accordance with the

*Florida Building Code, Building* and *Florida Building Code, Mechanical*.

**310.3 Interior finish.** Interior finish surfaces of toilet facilities ~~rooms~~ shall comply with the *Florida Building Code, Building.*

(P10924 / P28-21 AS)

**311.1 General.** Toilet facilities shall be provided for construction workers and such facilities shall be maintained in a sanitary condition. Construction worker toilet facilities of the nonsewered type shall conform to PSAI Z4.3 or to IAPMO/ISO 30500.

(P10899 / P13-21 AM)

**312.11 Drainage and vent vacuum test.** The portion of the drainage and vent system under test shall be evacuated of air by a vacuum type pump to achieve a uniform gauge pressure of negative 5 pounds per square inch or a negative 10 inches of mercury column (negative 34 kPa). This pressure shall be held without the removal of additional air for a period of 15 minutes. Any adjustments to the test pressure required because of changes in ambient temperatures or the seating of gaskets shall be made prior to the beginning of the test period.

(P10901 / P14-21 AS)

**CHAPTER 4 FIXTURES, FAUCETS AND FIXTURE FITTINGS**

**Revise as follows:**

**TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURESa (See Sections 403.1.1 and 403.2)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** | **DESCRIPTION** | **WATER CLOSETS (URINALS: SEE SECTION**  **424.2)** | | **LAVATORIES** | | **BATHTUBS/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION**  **410)** | **OTHER** |
| **MALE** | **FEMALE** | **MALE** | **FEMALE** |
| 1 | Assembly | Theaters and other buildings for the performing arts and motion picturesd | 1 per 125 | 1 per 65 | 1 per 200 | | — | 1 per 500 | 1 service sink |
| Nightclubs, bars, taverns, dance halls and buildings for similar purposesd | 1 per 40 | 1 per 40 | 1 per 75 | | — | 1 per 500 | 1 service sink |
| Restaurants, banquet halls and food courtsd | 1 per 75 | 1 per 75 | 1 per 200 | | — | 1 per 500 | 1 service sink |
| Casino gaming areas | 1 per 100 for the first  400 and 1 per 250 for the remainder exceeding 400 | 1 per 50 for the first 400  and 1 per 150 for the remainder exceeding 400 | 1 per 250 for the first  750 and 1 per 500 for the remainder exceeding 750 | | — | 1 per 1,000 | 1 service sink |
| Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries,  arcades and gymnasiumsd | 1 per 125 | 1 per 65 | 1 per 200 | | — | 1 per 500 | 1 service sink |
| Passenger terminals and transportation facilitiesd | 1 per 500 | 1 per 500 | 1 per 750 | | — | 1 per 1,000 | 1 service sink |
| Places of worship and other religious servicesd | 1 per 150 | 1 per 75 | 1 per 200 | | — | 1 per 1,000 | 1 service sink |
| Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activitiesf | 1 per 75 for the first  1,500 and 1 per 120 for the remainder exceeding 1,500 | 1 per 40 for the first  1,520 and 1 per 60 for the remainder exceeding 1,520 | 1 per 200 | 1 per 150 | — | 1 per 1,000 | 1 service sink |
| Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activitiesf | 1 per 75 for the first  1,500 and 1 per 120 for the remainder exceeding 1,500 | 1 per 40 for the first  1,520 and 1 per 60 for the remainder exceeding 1,520 | 1 per 200 | 1 per 150 | — | 1 per 1,000 | 1 service sink |
| 2 | Business | Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, ambulatory care, light industrial and  similar uses | 1 per 25 for the first 50 and 1 per 50 for the  remainder exceeding 50 | | 1 per 40 for the first 80  and 1 per 80 for the remainder exceeding 80 | | — | 1 per 100 | 1 service sinke |
| 3 | Educational | Educational facilities | 1 per 50 | | 1 per 50 | | — | 1 per 100 | 1 service sink |
| 4 | Factory and industrial | Structures in which occupants are engaged in work fabricating, assembly or processing of products or  materials | 1 per 100 | | 1 per 100 | | — | 1 per 400 | 1 service sink |
| 5 | Institutional | Custodial care facilities | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |
| Medical care recipients in hospitals and nursing homes | 1 per roomc | | 1 per roomc | | 1 per 15 | 1 per 100 | 1 service sink per floor |
| Employees in hospitals and nursing homesb | 1 per 25 | | 1 per 35 | | — | 1 per 100 | — |
| Visitors in hospitals and nursing homes | 1 per 75 | | 1 per 100 | | — | 1 per 500 | — |
| Prisonsb | 1 per cell | | 1 per cell | | 1 per 15 | 1 per 100 | 1 service sink |
| Reformatories, detention centers, and correctional centersb | 1 per 15 | | 1 per 15 | | 1 per 15 | 1 per 100 | 1 service sink |
| Employees in reformitories, detention centers and correctional centersb | 1 per 25 | | 1 per 35 | | — | 1 per 100 | — |
| Adult day care and child day care | 1 per 15 | | 1 per 15 | | 1 | 1 per 100 | 1 service sink |
| 6 | Mercantile | Retail stores, service stations, shops, salesrooms,  markets and shopping centers | 1 per 500 | | 1 per 750 | | — | 1 per 1,000 | 1 service sinke |
| 7 | Residential | Hotels, motels, boarding houses (transient) | 1 per sleeping unit | | 1 per sleeping unit | | 1 per sleeping unit | — | 1 service sink |
| Dormitories, fraternities, sororities and boarding houses  (not transient) | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |
|  | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** | **DESCRIPTION** | **WATER CLOSETS (URINALS: SEE SECTION**  **424.2)** | | **LAVATORIES** | | **BATHTUBS/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION**  **410)** | **OTHER** |
| **MALE** | **FEMALE** | **MALE** | **FEMALE** |
|  |  | Apartment house | 1 per dwelling unit | | 1 per dwelling unit | | 1 per dwelling unit | — | 1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20  dwelling units |
| Congregate living facilities with 16 or fewer persons | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |
| One- and two-family dwellings and lodging houses with five or fewer guestrooms | 1 per dwelling unit | | 1 per dwelling unit | | 1 per dwelling unit | — | 1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per  dwelling unit |
| Congregate living facilities with 16 or fewer persons | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |
| 8 | Storage | Structures for the storage of goods, warehouses, storehouse and freight depots. Low and Moderate  Hazard. | 1 per 100 | | 1 per 100 | | — | 1 per 1,000 | 1 service sink |

1. – f - no change

**(P10901/P14-21/P17-21 Part I AS)**

**TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURESa (See Sections 403.1.1 and 403.2)**

**Portions of table not shown remain unchanged.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** | **DESCRIPTION** | **WATER CLOSETS (URINALS: SEE SECTION**  **424.2)** | | **LAVATORIES** | | **BATHTUBS/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION 410)** | **OTHER** |
| **MALE** | **FEMALE** | **MALE** | **FEMALE** |
| 7 | Residential | Hotels, motels, boarding houses (transient) | 1 per *dwelling* or sleeping unit | | 1 per *dwelling* or  sleeping unit | | 1 per *dwelling* or  sleeping unit | — | 1 service sink |
| Dormitories, fraternities, sororities and  boarding houses (not transient) | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |
| Apartment house | 1 per dwelling or *sleeping* unit | | 1 per dwelling or | | 1 per dwelling or | — | 1 kitchen sink per dwelling unit; 1 automatic clothes  washer connection per 20 dwelling units |
| *sleeping* unit | | *sleeping* unit |
| Congregate living facilities with 16 or fewer  persons | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |
| One- and two-family dwellings and lodging  houses with five or fewer guestrooms | 1 per dwelling unit | | 1 per dwelling  unit | | 1 per dwelling  unit | — | 1 kitchen sink per dwelling unit; 1 automatic clothes  washer connection per dwelling unit |
| Congregate living facilities with 16 or fewer  persons | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |

(a – f) – no change

(P10996 / G44-21 Part III AS)

**TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURESa (See Sections 403.1.1 and 403.2)**

**Portions of table not shown remain unchanged.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** | **DESCRIPTION** | **WATER CLOSETS (URINALS: SEE**  **SECTION 424.2)** | | **LAVATORIES** | | **BATHTUBS/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION 410)** | **OTHER** |
| **MALE** | **FEMALE** | **MALE** | **FEMALE** |
| 5 | Institutional | Medical care recipients in hospitals and  nursing homes | 1 per roomc | | 1 per roomc | | 1 per 15 | 1 per 100 | 1 service sink per  floor |

a. No change

b. No change

c. A single-user toilet facility ~~occupant toilet room~~ with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted provided that each patient sleeping unit has direct access to the toilet room and provision for privacy for the toilet room user is provided.

(d – f) – no change

**403.1.2 Fixtures in Single-user toilet facilities and bathing room ~~fixtures~~.** The plumbing fixtures located in single-user toilet facility and single-user bathing rooms, including family or assisted-use toilet facilities and bathing rooms that are required by Section 1110.2.1 of the International Building Code, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. Single-user toilet facilities and bathing rooms, and family or assisted-use toilet facilities ~~rooms~~ and bathing rooms shall be identified as being available for use by all persons regardless of their sex. The total number of fixtures shall be permitted to be based on the required number of separate facilities or based on the aggregate of any combination of single-user or separate facilities.

**~~403.1.3 Lavatory distribution.~~** ~~Where two or more toilet facilities rooms are provided for each sex, the required number of lavatories shall be distributed proportionately to the required number of water closets.~~ Do not include – not in the FPC.

**403.2 Separate facilities.** Where plumbing fixtures are required, separate toilet facilities shall be provided for each sex.

**Exceptions:**

1. Separate toilet facilities shall not be required for dwelling units and sleeping units.

2. Separate toilet facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or fewer.

3. Separate toilet facilities shall not be required in mercantile *occupancies* in which the maximum occupant load is 100 or fewer.

4. Separate toilet facilities shall not be required in business *occupancies* in which the maximum occupant load is 25 or fewer.

5. Separate toilet facilities shall not be required to be designated by sex where single-user toilet rooms are provided in accordance with Section 403.1.2.

6. Separate toilet facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by both sexes and privacy for water closets is provided in accordance with Section 405.3.4. Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.

**403.3 .1 Access.** The route to the *public* toilet facilities required by Section 403.3 shall not pass through kitchens, storage rooms or closets. Access to the required toilet facilities shall be from within the building or from the exterior of the building. The public shall have access to the required toilet facilities at all times that the building is occupied.

**403.3.2 Prohibited ~~toilet room~~ location for toilet facilities.** Toilet facilities ~~rooms~~ shall not open directly into a room used for the preparation of food for service to the public.

**403.3.5 Pay toilet facilities.** Where pay toilet facilities are installed, such toilet facilities shall be in excess of the required minimum toilet facilities. Required toilet facilities shall be free of charge.

**403.3.6 Door locking.** Where a toilet facility ~~room~~ is provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use toilet facilities ~~rooms~~.

**403.4 Signage.** Required *public* toilet facilities shall be provided with signs that designate the sex, as required by Section 403.2. Signs shall be readily visible and located near the entrance to each toilet facility. Signs for accessible toilet facilities shall comply with the *Florida Building Code, Accessibility.*

**405.3.2 Public lavatories.** In employee and *public* toilet facilities ~~rooms~~, the required lavatory shall be located in the same room as the required water closet.

**405.3.4 Water closet compartment.** Each water closet utilized by the *public* or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy.

**Exceptions:**

1. Water closet compartments shall not be required in a single-occupant toilet room with a lockable door.

2. Toilet facilities ~~rooms~~ located in child day care facilities and containing two or more water closets shall be permitted to have one water closet without an enclosing compartment.

3. This provision is not applicable to toilet areas located within Group I-3 housing areas.

**405.3.5 Urinal partitions.** Each urinal utilized by the *public* or employees shall occupy a separate area with walls or partitions to provide privacy. The horizontal dimension between walls or partitions at each urinal shall be not less than 30 inches (762 mm). The walls or partitions shall begin at a height not greater than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater.

**Exceptions:**

1. Urinal partitions shall not be required in a single occupant or family/assisted-use toilet facility ~~room~~ with a lockable door.

2. Toilet facilities ~~rooms~~ located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

(P10924 / P28-21 AS)

Revise Section 403.1.1 (Exception 2) to read as follows:

**403.1.1 Fixture calculations.**

**Exceptions:**

**---**

2. Where multi-user facilities are designed to serve all genders, the minimum fixture count shall be calculated 100 percent, based on total occupant load. In such multi-user user facilities, each fixture type shall be in accordance with ~~ICC A117.1~~ *Florida Building Code, Accessibility*, and each urinal that is provided shall be located in a stall.

P-FBC-P- CH.4 – Errata #1

Add new Section to read as follows:

**403.2.2 Restrooms and changing facilities respective to sex.**

Covered entities, as defined in §553.865, Florida Statutes, shall provide separate restrooms and changing facilities based on biological sex, or to provide single-user unisex facilities.

P-FBC-P – Ch.4 – Glitch #1

**TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURESa (See Sections 403.1.1 and 403.2)**

**Portions of table not shown remain unchanged.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** | **DESCRIPTION** | **WATER CLOSETS (URINALS: SEE SECTION**  **424.2)** | | **LAVATORIES** | | **BATHTUBS/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION 410)** | **OTHER** |
| **MALE** | **FEMALE** | **MALE** | **FEMALE** |
| 7 | Residential | Hotels, motels, boarding houses (transient) | 1 per *dwelling* or sleeping unit | | 1 per *dwelling* or  sleeping unit | | 1 per *dwelling* or  sleeping unit | — | 1 service sink |
| Dormitories, fraternities, sororities and  boarding houses (not transient) | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |
| Apartment house | 1 per dwelling or *sleeping* unit | | 1 per dwelling or | | 1 per dwelling or | — | 1 kitchen sink per dwelling unit; 1 automatic clothes  washer connection per 20 dwelling units |
|  |  |  |  | | *sleeping* unit | | *sleeping* unit |
| Congregate living facilities with 16 or fewer  persons | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |
| One- and two-family dwellings and lodging  houses with five or fewer guestrooms | 1 per dwelling unit | | 1 per dwelling  unit | | 1 per dwelling  unit | — | 1 kitchen sink per dwelling unit; 1 automatic clothes  washer connection per dwelling unit |
| Congregate living facilities with 16 or fewer  persons | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |

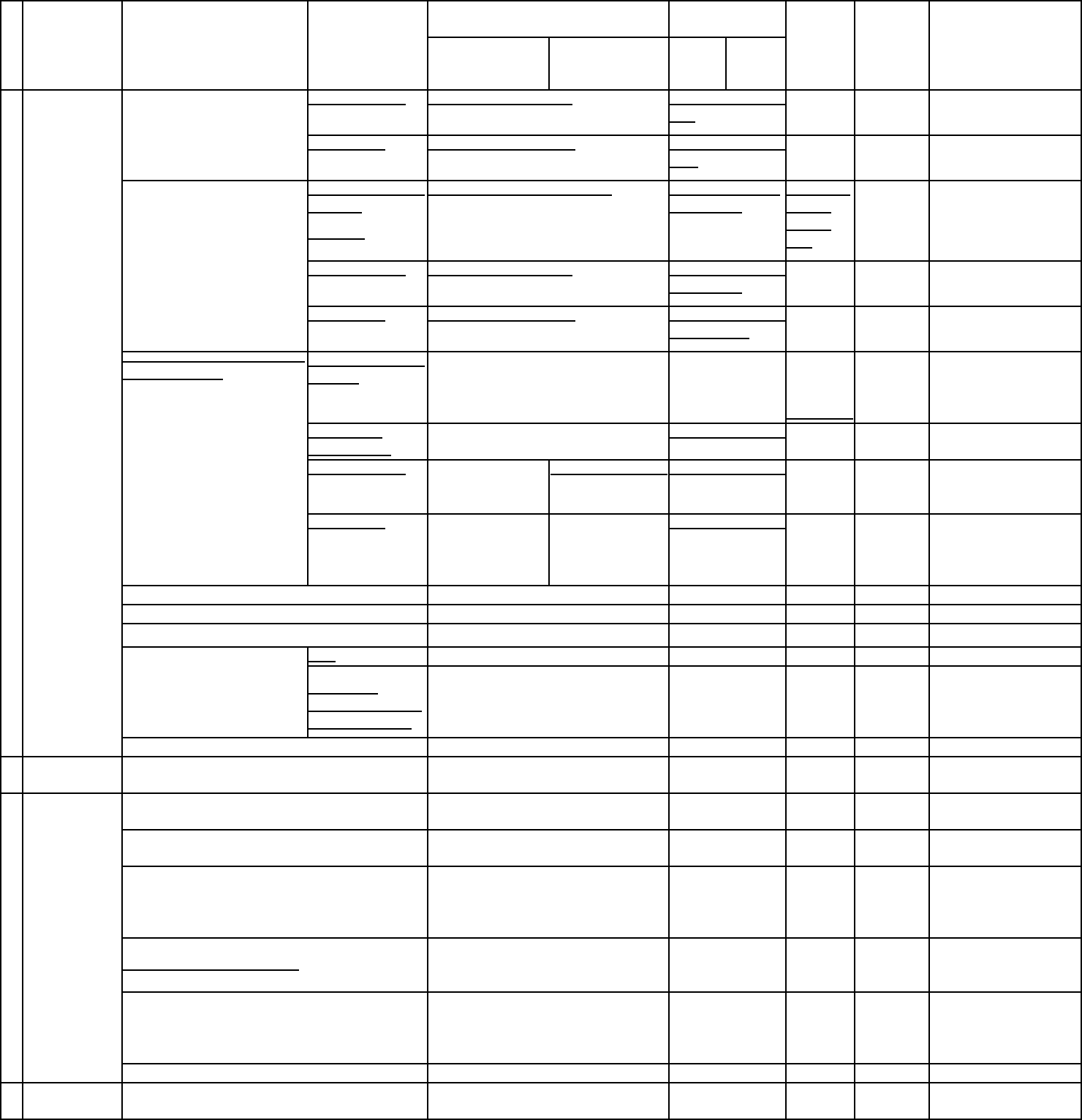
(a. - f ) – no change

(P10851 / G44-21 Part III AS)

Original mod -

**TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURESa (See Sections 403.1.1 and 403.2)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** | **DESCRIPTION** | | **WATER CLOSETS (URINALS: SEE**  **SECTION 424.2)** | | | **LAVATORIES** | | **BATHTUBS/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION**  **410)** | **OTHER** |
| **MALE** | | **FEMALE** | **MALE** | **FEMALE** |
| 1 | Assembly | Theaters and other buildings for the performing arts and motion picturesd | | 1 per 125 | | 1 per 65 | 1 per 200 | | — | 1 per 500 | 1 service sink |
| Nightclubs, bars, taverns, dance halls and buildings for similar purposesd | | 1 per 40 | | 1 per 40 | 1 per 75 | | — | 1 per 500 | 1 service sink |
| Restaurants, banquet halls and food courtsd | | 1 per 75 | | 1 per 75 | 1 per 200 | | — | 1 per 500 | 1 service sink |
| Casino gaming areas | | 1 per 100 for the first  400 and 1 per 250 for the remainder exceeding 400 | | 1 per 50 for the first  400 and 1 per 150 for the remainder exceeding 400 | 1 per 250 for the first  750 and 1 per 500 for the remainder exceeding 750 | | — | 1 per 1,000 | 1 service sink |
| Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades  and gymnasiumsd | | 1 per 125 | | 1 per 65 | 1 per 200 | | — | 1 per 500 | 1 service sink |
| Passenger terminals and transportation facilitiesd | | 1 per 500 | | 1 per 500 | 1 per 750 | | — | 1 per 1,000 | 1 service sink |
| Places of worship and other religious servicesd | | 1 per 150 | | 1 per 75 | 1 per 200 | | — | 1 per 1,000 | 1 service sink |
| Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities | | 1 per 75 for the first  1,500 and 1 per 120 for the remainder exceeding 1,500 | | 1 per 40 for the first  1,520 and 1 per 60 for the remainder exceeding 1,520 | 1 per 200 | 1 per 150 | — | 1 per 1,000 | 1 service sink |
| Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activitiesf | | 1 per 75 for the first  1,500 and 1 per 120 for the remainder exceeding 1,500 | | 1 per 40 for the first  1,520 and 1 per 60 for the remainder exceeding 1,520 | 1 per 200 | 1 per 150 | — | 1 per 1,000 | 1 service sink |
| 2 | Business | Buildings for the transaction of business, non-medical professional services, other services involving merchandise, office buildings, banks, ~~ambulatory care,~~  light industrial and similar uses | | 1 per 25 for the first 50 and 1 per 50 for the  remainder exceeding 50 | | | 1 per 40 for the first  80 and 1 per 80 for the remainder exceeding 80 | | — | 1 per 100 | 1 service sinke |
| Ambulatory care facilities and Outpatient clinics | | 1 per 25 for the first 50 | | 1 per 25 for the first 50 | 1 per 50 | |  | 1 per 100 | 1 service sink per floor |
| and 1 per 50 for the remainder exceeding 50 | | and 1 per 50 for the remainder exceeding 50 |
| 3 | Educational | Educational facilities | | 1 per 50 | | | 1 per 50 | | — | 1 per 100 | 1 service sink |
| 4 | Factory and industrial | Structures in which occupants are engaged in work fabricating, assembly or processing of products or  materials | | 1 per 100 | | | 1 per 100 | | — | 1 per 400 | 1 service sink |
| 5 | Institutional | Alcohol and drug centers  Congregate care facilities  *Group homes*  Halfway houses  Social rehabilitation facilities Foster care facilities Footnote b | | 1 per 10 care recipients | | | 1 per 10 care recipients | | 1 per 8 care recipients |  |  |
| Assisted living and residential board and care facilities with care recipients who receive Custodial care ~~facilities~~ | Sleeping units for care | 1 per 2 ~~10~~ sleeping units | | | 1 per 2 ~~8~~ sleeping units | | 1 per 8 sleeping units | ~~1 per 100~~ | ~~1 service sink~~ |
| recipients Footnote c |
| Dwelling units for care | 1 per dwelling unit | | | 1 per dwelling unit | | 1 per  dwelling unit |  | 1 kitchen sink per dwelling unit |
| recipients |  |  | |
|  |

**WATER CLOSETS (URINALS: SEE SECTION 424.2)**

**LAVATORIES**

**BATHTUBS/**

**DRINKING FOUNTAIN (SEE SECTION**

**NO. CLASSIFICATION DESCRIPTION**

**MALE**

**FEMALE**

**MALE**

**FEMALE**

**SHOWERS**

**410)**

**OTHER**

Employee facilities

1 per 60 care recipient units

1 per 60 care recipient units

1 per 100

1 service sink per floor

Visitor facilities

1 per 75 care recipient units.

1 per 75 care recipient units.

Nursing homes

Sleeping units for care 1 per 2 care recipient sleeping units

1 per 2 care recipient 1 per 8 care

recipients Footnote c

sleeping units

recipient sleeping units

Employee facilities

1 per 60 care recipient units

1 per 60 care recipient sleeping units

1 per 100

1 service sink per floor

Visitor facilities

Medical care recipients in hospitals Sleeping units for care

1 per 75 care recipient units.

1 per ~~roomc~~ care recipient sleeping unit

1 per 75 care recipient sleeping rooms

1 per ~~roomc~~ care

1 per ~~15~~ 100

~~1 per 100~~

~~1 service sink per floor~~

and nursing homes Footnote b

recipients

Care recipient treatment areas

1 per 25 care recipient treatment rooms

recipient sleeping unit

1 per 50 care recipient treatment rooms

care recipient sleeping unit

1 per 100

Employee facilities

1 per 25 care recipient 1 per 35 care recipient 1 per 50 care recipient

1 per 100

1 service sink per floor

Visitor facilities

sleeping units or treatment room

1 per 75 care recipient sleeping room or treatment room

sleeping units or treatment room 1 per 100 care recipient sleeping

room or treatment room

sleeping units or treatment room

1 per 50 care recipient sleeping room or treatment room

1 per 500 —

Employees in hospitals and nursing homesb

Visitors in hospitals and nursing homes Prisonsb

1 per 25

1 per 75

1 per cell

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 per 15 | 1 per 15 | 1 per 15 | 1 per 100 | 1 service sink |
| 1 per 25 | 1 per 35 | — | 1 per 100 | — |

1 per 35

1 per 100

1 per cell

—

—

1 per 15

1 per 100

1 per 500

1 per 100

—

—

1 service sink

Reformatories, detention centers, and correctional centersb

Adult day care and child day care

Cells Employees ~~in~~ reformitories,

detention centers and correctional centers~~b~~

1 per 15

1 per 15

1 1 per 100

1 service sink

6 Mercantile

7 Residential

Retail stores, service stations, shops, salesrooms, markets and shopping centers

Hotels, motels, boarding houses (transient)

Dormitories, fraternities, sororities and boarding houses (not transient)

Apartment house

Congregate living facilities with 16 or fewer ~~persons~~ care recipients receiving custodial care

1 per 500

1 per sleeping unit 1 per 10

1 per dwelling unit

1 per 10 care recipients

1 per 750

1 per sleeping unit 1 per 10

1 per dwelling unit

1 per 10 care recipients

—

1 per sleeping unit 1 per 8

1 per dwelling unit

1 per 8 care recipients

1 per 1,000

—

1 per 100

—

~~1 per 100~~

1 service sinke

1 service sink

1 service sink

1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units

1 ~~service~~ kitchen sink

8 Storage

One- and two-family dwellings and lodging houses with five or fewer guestrooms

Congregate living facilities with 16 or fewer persons Structures for the storage of goods, warehouses, storehouse and freight depots. Low and Moderate Hazard.

1 per dwelling unit

1 per 10

1 per 100

1 per dwelling unit

1 per 10

1 per 100

1 per dwelling unit

1 per 8

—

—

1 per 100

1 per 1,000

1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling unit

1 service sink

1 service sink

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the *International Building Code*.

b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.

c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacenp~~t atient~~ care recipient sleeping units shall be permitted provided that each~~patient~~ care recipient sleeping unit has direct access to the toilet room and provision for privacy for the toilet room user is provided.

d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

e. For business and mercantile classifications with an occupant load of 15 or fewer, service sinks shall not be required.

f. The required number and type of plumbing fixtures for outdoor public swimming pools shall be in accordance with Section 609 of the International Swimming Pool and Spa Code.

Committee modification -

**TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURESa (See Sections 403.1.1 and 403.2)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** |  | **DESCRIPTION** | **WATER CLOSETS (URINALS:**  **SEE SECTION 424.2)** | | **LAVATORIES** | | **BATHTUBS/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION**  **410)** | **OTHER** |
| **MALE** | **FEMALE** | **MALE** | **FEMALE** |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** |  | **DESCRIPTION** | | **WATER CLOSETS (URINALS:**  **SEE SECTION 424.2)** | | **LAVATORIES** | | **BATHTUBS/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION**  **410)** | **OTHER** |
| **MALE** | **FEMALE** | **MALE** | **FEMALE** |
|  | 1 | Assembly | Theaters and other buildings for the performing arts and motion picturesd | | 1 per 125 | 1 per 65 | 1 per 200 | | — | 1 per 500 | 1 service sink |
| Nightclubs, bars, taverns, dance halls and buildings for similar purposesd | | 1 per 40 | 1 per 40 | 1 per 75 | | — | 1 per 500 | 1 service sink |
| Restaurants, banquet halls and food courtsd | | 1 per 75 | 1 per 75 | 1 per 200 | | — | 1 per 500 | 1 service sink |
| Casino gaming areas | | 1 per 100 for the  first 400 and 1 per 250 for the remainder exceeding 400 | 1 per 50 for the  first 400 and 1 per 150 for the remainder exceeding 400 | 1 per 250 for the  first 750 and 1 per 500 for the remainder exceeding 750 | | — | 1 per 1,000 | 1 service sink |
| Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and  gymnasiumsd | | 1 per 125 | 1 per 65 | 1 per 200 | | — | 1 per 500 | 1 service sink |
| Passenger terminals and transportation facilitiesd | | 1 per 500 | 1 per 500 | 1 per 750 | | — | 1 per 1,000 | 1 service sink |
| Places of worship and other religious servicesd | | 1 per 150 | 1 per 75 | 1 per 200 | | — | 1 per 1,000 | 1 service sink |
| Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities | | 1 per 75 for the  first 1,500 and 1 per 120 for the remainder exceeding 1,500 | 1 per 40 for the  first 1,520 and 1 per 60 for the remainder exceeding 1,520 | 1 per  200 | 1 per  150 | — | 1 per 1,000 | 1 service sink |
| Stadiums, amusement parks, bleachers and grandstands for outdoor sporting  events and activitiesf | | 1 per 75 for the  first 1,500 and 1 per 120 for the remainder exceeding 1,500 | 1 per 40 for the  first 1,520 and 1 per 60 for the remainder exceeding 1,520 | 1 per  200 | 1 per  150 | — | 1 per 1,000 | 1 service sink |
| 2 | Business |  | Buildings for the transaction of business, non-medical professional services, other services involving merchandise, office buildings, banks, light industrial and  similar uses | | 1 per 25 for the first 50 and 1 per  50 for the remainder exceeding 50 | | 1 per 40 for the  first 80 and 1 per  80 for the remainder exceeding 80 | | — | 1 per 100 | 1 service sinke |
| Ambulatory care facilities and Outpatient clinics | | 1 per 25 for the  first 50 and 1 per  50 for the remainder exceeding 50 | 1 per 25 for the  first 50 and 1 per  50 for the remainder exceeding 50 | 1 per 50 | |  | 1 per 100 | 1 service sink per floor |
| 3 | Educational |  | Educational facilities | | 1 per 50 | | 1 per 50 | | — | 1 per 100 | 1 service sink |
| 4 | Factory and industrial |  | Structures in which occupants are engaged in work fabricating, assembly or  processing of products or materials | | 1 per 100 | | 1 per 100 | | — | 1 per 400 | 1 service sink |
| 5 | Institutional |  | Alcohol and drug centers b  Congregate care facilitiesb Group homesb  Halfway housesb  Social rehabilitation facilities b  Foster care facilitiesb | | 1 per 10 care recipients | | 1 per 10 care recipients | | 1 per 8 care recipients |  |  |
| Assisted living and residential board and care facilities with care recipients who receive Custodial care | Sleeping units for care  recipientsc | 1 per 2 sleeping units | | 1 per 2 sleeping units | | 1 per 8 sleeping units |  |  |
|  | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** |  | **DESCRIPTION** |  | **WATER CLOSETS (URINALS:**  **SEE SECTION 424.2)** | | **LAVATORIES** | | **BATHTUBS/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION**  **410)** | **OTHER** |
| **MALE** | **FEMALE** | **MALE** | **FEMALE** |
|  |  |  |  | Dwelling units for care  recipients | 1 per dwelling unit | | 1 per dwelling unit | | 1 per dwelling unit |  | 1 kitchen sink per dwelling unit |
| Employee facilities | 1 per 60 care recipient units | | 1 per 60 care recipient units | |  | 1 per 100 | 1 service sink per floor |
| Visitor facilities | 1 per 75 care recipient units. | | 1 per 75 care recipient units. | |  |  |  |
| Nursing homes | Sleeping units for care recipients | 1 per 2 care recipient sleeping units | | 1 per 2 care recipient sleeping units | | 1 per 8 care recipient sleeping units |  |  |
| Employee facilities | 1 per 60 care recipient units | | 1 per 60 care recipient sleeping units | |  | 1 per 100 | 1 service sink per floor |
| Visitor facilities | 1 per 75 care recipient units. | | 1 per 75 care recipient sleeping rooms | |  |  |  |
| Hospitalsb  ~~Footnote b~~ | Sleeping units for care  recipients | 1 per care recipient sleeping unit | | 1 per care recipient sleeping unit | | 1 per 100 care recipient  sleeping unit |  |  |
| Care recipient treatment  areas | 1 per 25 care recipient treatment rooms | | 1 per 50 care recipient treatment rooms | |  | 1 per 100 |  |
| Employee facilities | 1 per 25 care recipient sleeping units or  treatment room | 1 per ~~35~~ 25 care recipient sleeping units or  treatment room | 1 per 50 care recipient sleeping units or treatment  room | |  | 1 per 100 | 1 service sink per floor |
| Visitor facilities | 1 per 75 care recipient sleeping room or  treatment room | 1 per ~~100~~ 75 care recipient sleeping room or  treatment room | 1 per 50 care recipient sleeping room or  treatment room | |  | 1 per 500 | — |
| Employees in hospitals and nursing homesb | | 1 per 25 | | 1 per 35 | | — | 1 per 100 | — |
| Visitors in hospitals and nursing homes | | 1 per 75 | | 1 per 100 | | — | 1 per 500 | — |
| Prisonsb | | 1 per cell | | 1 per cell | | 1 per 15 | 1 per 100 | 1 service sink |
| Reformatories, detention centers, and correctional  centersb | Cells | 1 per ~~15~~ cell | | 1 per ~~15~~ cell | | 1 per 15 | 1 per 100 | 1 service sink |
| Congregate | 1 per 15 | | 1 per 15 | | 1 per 15 | 1 per 100 | 1 service sink |
| Living Facilities |  |
| Employees | 1 per 25 | | 1 per 35 | | — | 1 per 100 | — |
| Adult day care and child day care | | 1 per 15 | | 1 per 15 | | 1 | 1 per 100 | 1 service sink |
| 6 | Mercantile |  | Retail stores, service stations, shops, salesrooms, markets and shopping  centers | | 1 per 500 | | 1 per 750 | | — | 1 per 1,000 | 1 service sinke |
| 7 | Residential |  | Hotels, motels, boarding houses  (transient) | | 1 per sleeping unit | | 1 per sleeping  unit | | 1 per  sleeping unit | — | 1 service sink |
| Dormitories, fraternities, sororities and  boarding houses (not transient) | | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** |  | **DESCRIPTION** | **WATER CLOSETS (URINALS:**  **SEE SECTION 424.2)** | | **LAVATORIES** | | **BATHTUBS/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION**  **410)** | **OTHER** |
| **MALE** | **FEMALE** | **MALE** | **FEMALE** |
|  |  |  | Apartment house | 1 per dwelling unit | | 1 per dwelling unit | | 1 per dwelling unit | — | 1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20  dwelling units |
| Congregate living facilities with 16 or fewer care recipients receiving custodial  care | 1 per 10 care recipients | | 1 per 10 care recipients | | 1 per 8 care recipients |  | 1 kitchen sink |
| One- and two-family dwellings and lodging houses with five or fewer guestrooms | 1 per dwelling unit | | 1 per dwelling unit | | 1 per dwelling unit | — | 1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling  unit |
| Congregate living facilities with 16 or  fewer persons | 1 per 10 | | 1 per 10 | | 1 per 8 | 1 per 100 | 1 service sink |
| 8 | Storage |  | Structures for the storage of goods, warehouses, storehouse and freight  depots. Low and Moderate Hazard. | 1 per 100 | | 1 per 100 | | — | 1 per 1,000 | 1 service sink |

(P10905 / P21-21 AM)

**403.1.1 Fixture calculations.** To determine the occupant load of each sex, the total occupant load shall be divided in half. To determine the required number of fixtures, the fixture ratio or ratios for each fixture type shall be applied to the occupant load of each sex in accordance with Table 403.1. Fractional numbers resulting from applying the fixture ratios of Table 403.1 shall be rounded up to the next whole number. For calculations involving multiple *occupancies*, such fractional numbers for each *occupancy* shall first be summed and then rounded up to the next whole number.

**Exceptions:**

1. The total occupant load shall not be required to be divided in half where *approved* statistical data indicate a distribution of the sexes of other than 50 percent of each sex.

2. Where multiple-user facilities are designed to serve all genders, the minimum fixture count shall be calculated 100 percent, based on total occupant load. In such multiple-user facilities, each fixture type shall be in accordance with ICC A117.1 ~~and each~~ ~~urinal that is provided shall be located in a stall.~~

3. Distribution of the sexes is not required where single-user water closets and bathing room fixtures are provided in accordance with Section 403.1.2.

**403.1.2 Single-user toilet and bathing room fixtures.** The plumbing fixtures located in single-user toilet and bathing rooms, including family or assisted-use toilet and bathing rooms ~~that are required by Section 1110.2.1 of the International Building Code~~, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. The number of fixtures in single-user toilets, single-user bathing fixtures and family or assisted-use toilets shall be deducted proportionately from the required gender ratios of Table 403.1. Single-user toilet and bathing rooms, and family or assisted-use toilet rooms and bathing rooms shall be identified as being available for use by all persons regardless of ~~their~~ sex. The total number of fixtures shall ~~be permitted to~~ be based on the required number of separate facilities or based on the aggregate of any combination of single-user or multiple-user ~~separate~~ facilities.

**403.2 Separate facilities.** Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.

2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or fewer.

3. Separate facilities shall not be required in mercantile *occupancies* in which the maximum occupant load is 100 or fewer.

4. Separate facilities shall not be required in business *occupancies* in which the maximum occupant load is 25 or fewer.

5. Separate facilities shall not be required to be designated by sex where single-user toilet rooms are provided in accordance with Section 403.1.2.

6. Separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by ~~both sexes~~ all persons regardless of sex and privacy is provided for water closets ~~is provided~~ in accordance with Section 405.3.4 and for urinals in accordance with Section 405.3.5. ~~Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is~~ ~~provided shall be located in a stall.~~

**405.3.5 Urinal partitions.** Each urinal utilized by the *public* or employees shall occupy a separate area with walls or partitions to provide privacy. The horizontal dimension between walls or partitions at each urinal shall be not less than 30 inches (762 mm). The walls or partitions shall begin at a height not greater than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm)

or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater. Urinals located in facilities designed for the use of all persons regardless of sex shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.

**Exceptions:**

1. Urinal partitions shall not be required in a single occupant or family/assisted-use toilet room with a lockable door.

2. Toilet rooms located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

**(P10906 / P24-21 Part I AM)**

**~~403.2.1 Family or assisted-use toilet facilities serving as separate facilities~~.** ~~Where a building or tenant space requires a separate toilet~~ ~~facility for each sex and each toilet facility is required to have only one water closet, two family or assisted-use toilet facilities shall be~~ ~~permitted to serve as the required separate facilities. Family or assisted-use toilet facilities shall not be required to be identified for exclusive~~ ~~use by either sex as required by Section 403.4.~~

**(P11674 / P32-21 AS)**

**403.3.6 Door locking.** Where a toilet room is provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use toilet rooms.

**Exception:** The egress door of a multiple occupant toilet room shall be permitted to be lockable from inside the room where all the following criteria are met:

1. The egress door shall be lockable from the inside of the room only by authorized personnel by the use of a key or other approved means.

2. The egress door shall be readily openable from the inside of the toilet room in accordance with IBC Section 1010.2.

3. The egress door shall be capable of being unlocked from outside the room with a key or other approved means.

**(P10929 / P35-21 AMPC1)**

**403.4 Signage.** Required *public* facilities shall be provided with signs that~~designate the~~indicate whether the facility is to be used by males, by females, or by all persons regardless of sex~~, as required by Section 403.2~~. Signs shall be readily visible and located near the entrance to each toilet facility. Signs for accessible toilet facilities shall comply with Section 1111 of the International Building Code.

**(P11675 / P36-21 AS)**

**407.2 Bathtub waste outlets and overflows.** Bathtubs shall be equipped with a waste outlet that is not less than 11/2 inches (38 mm) in diameter. The waste outlet shall be equipped with a watertight stopper. Where an overflow is installed in a bathtub, the piping from the overflow outlet shall be connected upstream of the fixture trap. The overflow outlet shall discharge to the trap whether the waste outlet is closed or open. ~~the overflow shall be not less than 1~~~~1~~~~/~~~~2~~ ~~inches (38 mm) in diameter.~~

(P10932 / P40-21 AS)

**410.1 Approval.** ~~Drinking fountains shall conform to ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1 or ASME A112.19.3/CSA~~ ~~B45.4, and~~ *~~water coolers~~* ~~shall conform to ASHRAE 18~~. Drinking fountains, *water coolers* and *water dispensers* shall conform to NSF 61, Section 9. Drinking fountains shall also conform to ASME A112.19.1/CSA B45.2 or ASME A112.19.2/CSA B45.1 or ASME A112.19.3/CSA B45.4. Electrically operated, refrigerated drinking *water coolers* and *water dispensers* shall be listed and labeled in accordance with UL 399.

(P10933 / P41-21 AM)

**412.10 Head shampoo sink faucets.**

Head shampoo sink faucets shall be supplied with hot water that is limited to not more than 120°F (49°C). Each faucet shall have integral check valves to prevent crossover flow between the hot and cold water supply connections. The means for regulating the maximum temperature shall be one of the following:

1. A limiting device conforming to ASSE 1070/ASME A112.1070/CSA B125.70.

2. A water heater conforming to ASSE1082 or 1084.

3. A temperature-actuated, flow-reduction device conforming to ASSE 1062.

(P10934 / P46-21 AM)

**412.2 Hand showers.** Hand-held showers shall conform to ASME A112.18.1/CSA B125.1. Hand-held showers shall provide backflow protection in accordance with ASME A112.18.1/CSA B125.1 or shall be protected against backflow by a device complying with ASME A112.18.3 or ASSE 1014.

(P10935 / P47-21 AS)

**423.3 Footbaths and pedicure baths.** The water supplied to specialty plumbing fixtures, such as pedicure chairs having an integral foot bathtub and footbaths, shall be limited to not greater than 120ºF (49ºC) by a water-temperature-limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or by a water heater complying with ASSE 1082 or1084.

(P10937 / P50-21 AM)

**~~423.4~~ 412.12 Electrically heated or cooled water dispensers**. E~~l~~ectrically heated or cooled water dispensers shall comply with ASSE 1023.

(P10938 / P51-21 AM)

**424.2 Substitution for water closets.** In each bathroom or toilet room, urinals shall not be substituted for more than 67 percent of the required water closets for males according to Table 403.1 in assembly and educational *occupancies*. Urinals shall not be substituted for more than 50 percent of the required water closets for males according to Table 403.1 in all other *occupancies.*

(P10939 / P52-21)

**CHAPTER 5 WATER HEATERS**

**501.9 Lead Content.** Water heaters that are part of the potable water distribution system shall comply with NSF 372 and shall have a weighted average lead content of 0.25% or less.

(P10941 / P54-21 Part I AM) (P11679 / P54-21 part I AM)

**CHAPTER 6 WATER SUPPLY AND DISTRIBUTION**

**TABLE 604.4 MAXIMUM FLOW RATES AND CONSUMPTION FOR PLUMBING FIXTURES AND FIXTURE FITTINGS**

**Portions of table not shown remain unchanged.**

|  |  |
| --- | --- |
| **PLUMBING FIXTURE OR FIXTURE FITTING** | **MAXIMUM FLOW RATE OR QUANTITYb** |
| Shower heada,c | 2.0 ~~2.5~~ gpm at 80 psi |

For SI: 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a. A hand-held shower spray is a shower head.

b. Consumption tolerances shall be determined from referenced standards.

c. Shower heads shall comply with all requirements for high-efficiency showerheads in ASME A112.18.1/CSA B125.1.

(P11681 / P87-21 Part I AM)

**605.14.2 Solvent cementing.** Joint surfaces shall be clean and free from moisture. Joints shall be made in accordance with the pipe manufacturer’s installation instructions. Solvent-cemented joints shall be permitted above or below ground.

Where such instructions require that a primer be used, the primer shall be applied to the joint surfaces and a solvent cement orange in color and conforming to ASTM F493 shall be applied to the joint surfaces. The joint shall be made while the cement is fluid and in accordance with ASTM D2855.

Where such instructions allow for a one-step solvent cement, yellow in color and conforming to ASTM F493, to be used, the joint surfaces shall not require application of a primer before the solvent cement is applied. The joint shall be made while the cement is wet and in accordance with ~~ASTM D2846 or ASTM F493~~. ASTM F3328.

~~Solvent-cemented joints shall be permitted above or below ground~~.

(P10979 / P74-21 Part I AS)

**605.14.2 Solvent cementing.** Joint surfaces shall be clean and free from moisture. Joints shall be made in accordance with the pipe manufacturer’s installation instructions. Where such instructions require that a primer be used, the primer shall be applied to the joint surfaces and a solvent cement orange in color and conforming to ASTM F493 shall be applied to the joint surfaces. Where such instructions allow for a one-step solvent cement, yellow or green in color and conforming to ASTM F493, to be used, the joint surfaces shall not require application of a primer before the solvent cement is applied. The joint shall be made while the cement is wet and in accordance with ASTM D2846 or ASTM F493. Solvent-cemented joints shall be permitted above or below ground.

(P10981 / P75-21 part I AS)

**605.15.2 Solvent cementing.** Joint surfaces shall be clean and free from moisture, and an approved primer shall be applied. Solvent cement, orange in color and conforming to ASTM F493, shall be applied to joint surfaces. The joint shall be made while the cement is wet, and in accordance with ~~ASTM D2846 or ASTM F493~~ASTM D2855. Solvent cement joints shall be permitted above or below ground.

**Exception:** A primer is not required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM F493.

2. The solvent cement used is yellow in color.

3. The solvent cement is used only for joining 1/2-inch (12.7 mm) through 2-inch-diameter (51 mm) CPVC/AL/CPVC pipe and CPVC fittings.

4. The CPVC fittings are manufactured in accordance with ASTM D2846.

5. The joint is made in accordance with ASTM F3328.

(P10982 / P76-21 part I AS)

**Original mod -**

**Revise as follows:**

**TABLE 605.3 WATER SERVICE PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Acrylonitrile butadiene styrene (ABS) plastic pipe | ASTM D1527; ASTM D2282 |
| Chlorinated polyvinyl chloride (CPVC) plastic pipe | ASTM D2846; ASTM F441; ASTM F442; CSA B137.6 |
| Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC) | ASTM F2855 |
| Copper or copper-alloy pipe | ASTM B42; ASTM B43; ASTM B302 |
| Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM) | ASTM B75; ASTM B88; ASTM B251; ASTM B447 |
| Cross-linked polyethylene (PEX) plastic pipe and tubing | ASTM F876; AWWA C904; CSA B137.5 |
| Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe | ASTM F1281; ASTM F2262; CSA B137.10 |
| Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE) | ASTM F1986 |
| Ductile iron water pipe | AWWA C151/A21.51; AWWA C115/A21.15 |
| Galvanized steel pipe | ASTM A53 |
| Polyethylene (PE) plastic pipe | ASTM D2239; ASTM D3035; AWWA C901; CSA B137.1 |
| Polyethylene (PE) plastic tubing | ASTM D2737; AWWA C901; CSA B137.1 |
| Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe | ASTM F1282; CSA B137.9 |
| Polyethylene of raised temperature (PE-RT) plastic tubing | ASTM F2769; CSA B137.18 |
| Polypropylene (PP) plastic pipe or tubing | ASTM F2389; CSA B137.11 |
| Polyvinyl chloride (PVC) plastic pipe | ASTM D1785; ASTM D2241; ASTM D2672; CSA B137.3 |
| Stainless steel pipe (Type 304/304L) | ASTM A269/A269M; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel pipe (Type 316/316L) | ASTM A269/A269M; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel tubing (Type 304/304L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel tubing (Type 316/316L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |

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**TABLE 605.3 WATER SERVICE PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Acrylonitrile butadiene styrene (ABS) plastic pipe | ASTM D1527; ASTM D2282 |
| Chlorinated polyvinyl chloride (CPVC) plastic pipe | ASTM D2846; ASTM F441; ASTM F442; CSA B137.6 |
| Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC) | ASTM F2855 |
| Copper or copper-alloy pipe | ASTM B42; ASTM B43; ASTM B302 |
| Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM) | ASTM B75; ASTM B88; ASTM B251; ASTM B447 |
| Cross-linked polyethylene (PEX) plastic pipe and tubing | ASTM F876; AWWA C904; CSA B137.5 |
| Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe | ASTM F1281; ASTM F2262; CSA B137.10 |
| Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE) | ASTM F1986 |
| Ductile iron water pipe | AWWA C151/A21.51; AWWA C115/A21.15 |
| Galvanized steel pipe | ASTM A53 |
| Polyethylene (PE) plastic pipe | ASTM D2239; ASTM D3035; AWWA C901; CSA B137.1 |
| Polyethylene (PE) plastic tubing | ASTM D2737; AWWA C901; CSA B137.1 |
| Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe | ASTM F1282; CSA B137.9 |
| Polyethylene of raised temperature (PE-RT) plastic tubing | ASTM F2769; CSA B137.18 |
| Polypropylene (PP) plastic pipe or tubing | ASTM F2389; CSA B137.11 |
| Polyvinyl chloride (PVC) plastic pipe | ASTM D1785; ASTM D2241; ASTM D2672; CSA B137.3 |
| Stainless steel pipe (Type 304/304L) | ASTM A269/A269M; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel pipe (Type 316/316L) | ASTM A269/A269M; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel tubing (Type 304/304L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel tubing (Type 316/316L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |

(P10949 / P61-21 Part I AMPC1)

Original mod –

**TABLE 605.4 WATER DISTRIBUTION PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Chlorinated polyvinyl chloride (CPVC) plastic pipe and tubing | ASTM D2846; ASTM F441; ASTM F442; CSA B137.6 |
| Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC) | ASTM F2855 |
| Copper or copper-alloy pipe | ASTM B42; ASTM B43; ASTM B302 |
| Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM) | ASTM B75; ASTM B88; ASTM B251; ASTM B447 |
| Cross-linked polyethylene (PEX) plastic tubing | ASTM F876; CSA B137.5 |
| Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe | ASTM F1281; ASTM F2262; CSA B137.10 |
| Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE) | ASTM F1986 |
| Ductile iron pipe | AWWA C115/A21.15; AWWA C151/A21.51 |
| Galvanized steel pipe | ASTM A53 |
| Polyethylene/aluminum/polyethylene (PE-AL-PE) composite pipe | ASTM F1282 |
| Polyethylene of raised temperature (PE-RT) plastic tubing | ASTM F2769; CSA B137.18 |
| Polypropylene (PP) plastic pipe or tubing | ASTM F2389; CSA B137.11 |
| Stainless steel pipe (Type 304/304L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel pipe (Type 316/316L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel tubing (Type 304/304L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel tubing (Type 316/316L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |

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**TABLE 605.4 WATER DISTRIBUTION PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Chlorinated polyvinyl chloride (CPVC) plastic pipe and tubing | ASTM D2846; ASTM F441; ASTM F442; CSA B137.6 |
| Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC) | ASTM F2855 |
| Copper or copper-alloy pipe | ASTM B42; ASTM B43; ASTM B302 |
| Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM) | ASTM B75; ASTM B88; ASTM B251; ASTM B447 |
| Cross-linked polyethylene (PEX) plastic tubing | ASTM F876; CSA B137.5 |
| Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe | ASTM F1281; ASTM F2262; CSA B137.10 |
| Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE) | ASTM F1986 |
| Ductile iron pipe | AWWA C115/A21.15; AWWA C151/A21.51 |
| Galvanized steel pipe | ASTM A53 |
| Polyethylene/aluminum/polyethylene (PE-AL-PE) composite pipe | ASTM F1282 |
| Polyethylene of raised temperature (PE-RT) plastic tubing | ASTM F2769; CSA B137.18 |
| Polypropylene (PP) plastic pipe or tubing | ASTM F2389; CSA B137.11 |
| Stainless steel pipe (Type 304/304L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel pipe (Type 316/316L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel tubing (Type 304/304L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |
| Stainless steel tubing (Type 316/316L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778 |

(P10951 / P62-21 Part I AMPC1)

Original mod -

**TABLE 605.5 PIPE FITTINGS**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Acrylonitrile butadiene styrene (ABS) plastic | ASTM D2468 |
| Cast iron | ASME B16.4 |
| Chlorinated polyvinyl chloride (CPVC) plastic | ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6 |
| Copper or copper alloy | ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061;  ASTM F1476; ASTM F1548; ASTM F3226 |
| Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE) | ASTM F1986 |
| Fittings for cross-linked polyethylene (PEX) plastic tubing | ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM  F2159; ASTM F2434; ASTM F2735; CSA B137.5 |
| Fittings for polyethylene of raised temperature (PE-RT) plastic tubing | ASSE 1061; ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM  F2769; CSA B137.18 |
| Gray iron and ductile iron | ASTM F1476; ASTM F1548; AWWA C110/A21.10; AWWA C153/A21.53; |
| Insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked  polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) | ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10 |
| Malleable iron | ASME B16.3 |
| Metal (brass) insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked  polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) | ASTM F1974 |
| Polyethylene (PE) plastic pipe | ASTM D2609; ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1 |
| Polypropylene (PP) plastic pipe or tubing | ASTM F2389; CSA B137.11 |
| Polyvinyl chloride (PVC) plastic | ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3 |
| Stainless steel (Type 304/304L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226 |
| Stainless steel (Type 316/316L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226 |
| Steel | ASME B16.9; ASME B16.11; ASME B16.28; ASTM F1476; ASTM F1548; ASTM F3226 |

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**TABLE 605.5 PIPE FITTINGS**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Acrylonitrile butadiene styrene (ABS) plastic | ASTM D2468 |
| Cast iron | ASME B16.4 |
| Chlorinated polyvinyl chloride (CPVC) plastic | ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6 |
| Copper or copper alloy | ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061;  ASTM F1476; ASTM F1548; ASTM F3226 |
| Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE) | ASTM F1986 |
| Fittings for cross-linked polyethylene (PEX) plastic tubing | ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM  F2159; ASTM F2434; ASTM F2735; CSA B137.5 |
| Fittings for polyethylene of raised temperature (PE-RT) plastic tubing | ASSE 1061; ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM  F2769; CSA B137.18 |
| Gray iron and ductile iron | ASTM F1476; ASTM F1548; AWWA C110/A21.10; AWWA C153/A21.53; |
| Insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked  polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) | ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10 |
| Malleable iron | ASME B16.3 |
| Metal (brass) insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked  polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) | ASTM F1974 |
| Polyethylene (PE) plastic pipe | ASTM D2609; ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1 |
| Polypropylene (PP) plastic pipe or tubing | ASTM F2389; CSA B137.11 |
| Polyvinyl chloride (PVC) plastic | ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3 |
| Stainless steel (Type 304/304L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226 |
| Stainless steel (Type 316/316L) | ASTM A269; ASTM A312; ASTM A554; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226 |
| Steel | ASME B16.9; ASME B16.11; ASME B16.28; ASTM F1476; ASTM F1548; ASTM F3226 |

(P10966 / P63-21 Part I AMPC1)

**TABLE 605.5 PIPE FITTINGS**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Acrylonitrile butadiene styrene (ABS) plastic | ASTM D2468 |
| Cast iron | ASME B16.4 |
| Chlorinated polyvinyl chloride (CPVC) plastic | ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6 |
| Copper or copper alloy | ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061; ASTM  F1476; ASTM F1548; ASTM F3226 |
| Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE) | ASTM F1986 |
| Fittings for cross-linked polyethylene (PEX) plastic tubing | ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM F2159;  ASTM F2434; ASTM F2735; ASTM F3347; CSA B137.5 |
| Fittings for polyethylene of raised temperature (PE-RT) plastic tubing | ASSE 1061; ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769;  ASTM F3347; CSA B137.18 |
| Gray iron and ductile iron | ASTM F1476; ASTM F1548; AWWA C110/A21.10; AWWA C153/A21.53; |
| Insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked  polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) | ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10 |
| Malleable iron | ASME B16.3 |
| Metal (brass) insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked  polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) | ASTM F1974 |
| Polyethylene (PE) plastic pipe | ASTM D2609; ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1 |
| Polypropylene (PP) plastic pipe or tubing | ASTM F2389; CSA B137.11 |
| Polyvinyl chloride (PVC) plastic | ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3 |
| Stainless steel (Type 304/304L) | ASTM A312; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226 |
| Stainless steel (Type 316/316L) | ASTM A312; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226 |
| Steel | ASME B16.9; ASME B16.11; ASME B16.28; ASTM F1476; ASTM F1548 |

(P10972 / P64-21 Part I AS)

**TABLE 605.5 PIPE FITTINGS**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Acrylonitrile butadiene styrene (ABS) plastic | ASTM D2468 |
| Cast iron | ASME B16.4 |
| Chlorinated polyvinyl chloride (CPVC) plastic | ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6 |
| Copper or copper alloy | ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061; ASTM  F1476; ASTM F1548; ASTM F3226 |
| Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE) | ASTM F1986 |
| Fittings for cross-linked polyethylene (PEX) plastic tubing | ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM F2159;  ASTM F2434; ASTM F2735; ASTM F3348; CSA B137.5 |
| Fittings for polyethylene of raised temperature (PE-RT) plastic tubing | ASSE 1061; ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769;  ASTM F3348; CSA B137.18 |
| Gray iron and ductile iron | ASTM F1476; ASTM F1548; AWWA C110/A21.10; AWWA C153/A21.53; |
| Insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked  polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) | ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10 |
| Malleable iron | ASME B16.3 |
| Metal (brass) insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked  polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) | ASTM F1974 |
| Polyethylene (PE) plastic pipe | ASTM D2609; ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1 |
| Polypropylene (PP) plastic pipe or tubing | ASTM F2389; CSA B137.11 |
| Polyvinyl chloride (PVC) plastic | ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3 |
| Stainless steel (Type 304/304L) | ASTM A312; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226 |
| Stainless steel (Type 316/316L) | ASTM A312; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226 |
| Steel | ASME B16.9; ASME B16.11; ASME B16.28; ASTM F1476; ASTM F1548 |

(P10974 / P65-21 Part I AS)

**TABLE 605.5 PIPE FITTINGS**

Portions of table not shown remain unchanged.

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Metal (brass copper alloy) insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) | ASTM F1974 |

(P10976 / P67-21 AS)

**Original mod -**

**TABLE 605.7 VALVES**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Chlorinated polyvinyl chloride (CPVC) plastic | ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASTM F1970; CSA B125.3; IAPMO Z1157; MSS SP-122 |
| Copper or copper alloy | ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASME B16.34; CSA B125.3; IAPMO Z1157; MSS SP-67; MSS SP-80; MSS SP-110; MSS SP-139 |
| Cross-linked polyethylene (PEX) plastic | ASME A112.4.14; ASME A112.18.1/CSA B125.1; CSA B125.3; IAPMO Z1157; NSF 359 |
| Gray iron and ductile iron | AWWA C500; AWWA C504; AWWA C507; IAPMO Z1157; MSS SP-67; MSS SP-70; MSS SP-71; MSS SP-72; MSS SP-78 |
| Polypropylene (PP) plastic | ASME A112.4.14; ASTM F2389; IAPMO Z1157 |
| Polyvinyl chloride (PVC) plastic | ASME A112.4.14; ASTM F1970; IAPMO Z1157; MSS SP-122 |
| Stainless steel (Type 304/304L) | IAPMO Z1157 |
| Stainless steel (Type 316/316L) | IAPMO Z1157 |

Public comment 1 -

**TABLE 605.7 VALVES**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Chlorinated polyvinyl chloride (CPVC) plastic | ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASTM F1970; CSA B125.3; IAPMO Z1157; MSS SP-122 |
| Copper or copper alloy | ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASME B16.34; CSA B125.3; IAPMO Z1157; MSS SP-67; MSS SP-80; MSS SP-110; MSS SP-139 |
| Cross-linked polyethylene (PEX) plastic | ASME A112.4.14; ASME A112.18.1/CSA B125.1; CSA B125.3; IAPMO Z1157; NSF 359 |
| Gray iron and ductile iron | AWWA C500; AWWA C504; AWWA C507; IAPMO Z1157; MSS SP-67; MSS SP-70; MSS SP-71; MSS SP-72; MSS SP-78 |
| Polypropylene (PP) plastic | ASME A112.4.14; ASTM F2389; IAPMO Z1157 |
| Polyvinyl chloride (PVC) plastic | ASME A112.4.14; ASTM F1970; IAPMO Z1157; MSS SP-122 |
| Stainless steel (Type 304/304L) | IAPMO Z1157, ASME A112.4.14 |
| Stainless steel (Type 316/316L) | IAPMO Z1157, ASME A112.4.14 |

(P10977 / P68-21 AMPC1)

**606.1 Location of full-open valves.** *Full-open valves* shall be installed in the following locations:

1. On the building water service pipe from the public water supply near the curb.

2. On the water distribution supply pipe at the entrance into the structure.

2.1. In multiple-tenant buildings, three stories or less in height, where a common water supply piping system is installed to supply other than one- and two-family dwellings, a main shutoff valve shall be provided for each tenant.

3. On the discharge side of every water meter.

4. On the base of every water riser pipe in occupancies other than multiple-family residential *occupancies* that are two stories or less in height and in one- and two-family residential *occupancies*.

5. On the top of every water down-feed pipe in*occupancies* other than one- and two-family residential *occupancies*.

6. On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.

7. On the water supply pipe to a gravity or pressurized water tank.

8. On the water supply pipe to every water heater.

(P10984 / P85-21 AMPC1)

* 1. **Location of shutoff valves.** Shutoff valves shall be installed in the following locations:
     1. On the fixture supply to each plumbing fixture other than bathtubs and showers in one- and two-family residential *occupancies*, and other than in individual dwelling or sleeping units that are provided with unit shutoff valves in hotels, motels, boarding houses and similar *occupancies*.
     2. On the water supply pipe to each sillcock.
     3. On the water supply pipe to each appliance or mechanical equipment.

(P10996 / G44-21 Part III AS)

**607.2.1 Commercial energy provisions.** In occupancies that are required to comply with the Commercial provisions of the International Energy Conservation Code, the developed length of hot or tempered water piping shall limited in accordance with Sections C404.5.1 through C404.5.2.1 of that code.

(P10985 / P89-21 AS)

**TABLE 608.1 APPLICATION OF BACKFLOW PREVENTERS**

Portions of table not shown remain unchanged.

|  |  |  |  |
| --- | --- | --- | --- |
| **DEVICE** | **DEGREE OF HAZARDa** | **APPLICATIONb** | **APPLICABLE STANDARDS** |
| **Backflow prevention assemblies:** | | | |
| Double check backflow prevention assembly ~~and double check fire protection~~  ~~backflow prevention assembly~~ | Low hazard | Backpressure or backsiphonage Sizes ~~3~~/~~8˝–16˝~~ 1/4"-16" | ASSE 1015; AWWA C510; CSA B64.5;  CSA B64.5.1 |
| Double check detector fire protection backflow prevention assemblies | Low hazard | Backpressure or backsiphonage Sizes ~~2˝~~ 1"–16˝ | ASSE 1048 |
| Pressure vacuum breaker assembly | High or low  hazard | Backsiphonage only Sizes 1/2˝–2˝ | ASSE 1020; CSA B64.1.2 |
| Reduced pressure principle backflow prevention assembly ~~and reduced pressure~~  ~~principle fire protection backflow assembly~~ | High or low  hazard | Backpressure or backsiphonage Sizes ~~3~~/~~8~~ 1/4"˝–16˝ | ASSE 1013; AWWA C511; CSA B64.4;  CSA B64.4.1 |
| Reduced pressure detector fire protection backflow prevention assemblies | High or low  hazard | Backsiphonage or backpressure (automatic sprinkler systems) | ASSE 1047 |
| Spill-resistant vacuum breaker assembly | High or low  hazard | Backsiphonage only Sizes 1/4˝–2˝ | ASSE 1056; CSA B64.1.3 |
| **Backflow preventer plumbing devices:** | | | |
| Antisiphon-type fill valves for gravity water closet flush tanks | High hazard | Backsiphonage only | ASSE 1002/ASME A112.1002/CSA  B125.12; CSA B125.3 |
| Backflow preventer for carbonated beverage machines | Low hazard | Backpressure or backsiphonage Sizes ~~1~~/~~4˝–3~~/~~8~~˝ 1/4"-1/2" | ASSE 1022 |
| Backflow preventer with intermediate atmospheric vents | Low hazard | Backpressure or backsiphonage Sizes 1/4˝–3/4˝ | ASSE 1012; CSA B64.3 |
| Backflow preventer with intermediate atmospheric vent and pressure-reducing valve. | Low hazard | Backpressure or backsiphonage Sizes ~~1~~/~~4˝–3~~/~~4~~˝ 1/2"-3/4" | ASSE 1081 |
| Dual-check-valve-type backflow preventer | Low hazard | Backpressure or backsiphonage Sizes 1/4˝–~~1˝~~ 2" | ASSE 1024; CSA B64.6 |
| Hose connection backflow preventer | High or low  hazard | Low head backpressure, rated working pressure, backpressure or  backsiphonage Sizes 1/2˝–1˝ | ASME A112.21.3; ASSE 1052; CSA  B64.2.1.1 |
| Hose connection vacuum breaker | High or low  hazard | Low head backpressure or backsiphonage Sizes 1/2˝, 3/4˝, 1˝ | ASME A112.21.3; ASSE 1011; CSA  B64.2; CSA B64.2.1 |
| Laboratory faucet backflow preventer | High or low  hazard | Low head backpressure and backsiphonage Sizes 1/8" - 8" | ASSE 1035; CSA B64.7 |
| Pipe-applied atmospheric-type vacuum breaker | High or low  hazard | Backsiphonage only Sizes ~~1~~/~~4˝–4˝~~ | ASSE 1001; CSA B64.1.1 |
| Vacuum breaker wall hydrants, frost-resistant, automatic-draining-type | High or low  hazard | Low head backpressure or backsiphonage Sizes 3/4˝, 1˝ | ASME A112.21.3; ASSE 1019; CSA  B64.2.2 |
| **Other means or methods:** | | | |
| Air gap | High or low  hazard | Backsiphonage or backpressure | ASME A112.1.2 |
| Air gap fittings for use with plumbing fixtures, appliances and appurtenances | High or low  hazard | Backsiphonage or backpressure | ASME A112.1.3 |
| Barometric loop | High or low  hazard | Backsiphonage only | (See Section 608.14.4) |

For SI: 1 inch = 25.4 mm.

a. Low hazard—See Pollution (Section 202).

High hazard—See Contamination (Section 202).

b. See Backpressure, low head (Section 202, Backflow). See Back siphonage (Section 202, Backflow).

(P10986 / P92-21 AS)

**606.2 Location of shutoff valves.** Shutoff valves shall be installed in the following locations:

1. On the fixture supply to each plumbing fixture other than bathtubs and showers in one- and two-family residential*occupancies*, and other than in individual dwelling or sleeping units that are provided with unit shutoff valves in hotels, motels, boarding houses and similar *occupancies*.

2. On the water supply pipe to each sill cock.

3. On the water supply pipe to each appliance or mechanical equipment.

(P10851 / G44-21 Part III AS)

Revise as follows:

**609.1 Scope.** This section shall govern those aspects of health care plumbing systems that differ from plumbing systems in other structures. Health care plumbing systems shall conform to the requirements of this section in addition to the other requirements of this code. The provisions of this section shall apply to the special devices and equipment installed and maintained in the following *occupancies*: Group I-1, Group I- 2, ~~Group B~~ ambulatory care facilities, medical offices, research and testing laboratories, and Group F facilities manufacturing pharmaceutical drugs and medicines.

(P10831 / G3-21 Part III AS)

**CHAPTER 7 SANITARY DRAINAGE**

**TABLE 702.1 ABOVE-GROUND DRAINAGE AND VENT PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or  composite wall | ASTM D2661; ASTM F628; ASTM F1488; CSA  B181.1 |
| Cast-iron pipe | ASTM A74; ASTM A888; CISPI 301 |
| Copper or copper-alloy pipe | ASTM B42; ASTM B43; ASTM B302 |
| Copper or copper-alloy tubing (Type K, L, M or DWV) | ASTM B75; ASTM B88; ASTM B251; ASTM B306 |
| Galvanized steel pipe | ASTM A53 |
| Glass pipe | ASTM C1053 |
| Polyolefin pipe | ASTM F1412; ASTM F3371; CSA B181.3 |
| Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200), and DR 24 (PS 140); with a solid, cellular core or composite  wall | ASTM D2665; ASTM F891; ASTM F1488; CSA  B181.2 |
| Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid, cellular core or composite wall | ASTM D2949; ASTM F1488 |
| Polyvinylidene fluoride (PVDF) plastic pipe | ASTM F1673; CSA B181.3 |
| Stainless steel drainage systems, Types 304 and 316L | ASME A112.3.1 |

**TABLE 702.2 UNDERGROUND BUILDING DRAINAGE AND VENT PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or  composite wall | ASTM D2661; ASTM F628; ASTM F1488; CSA  B181.1 |
| Cast-iron pipe | ASTM A74; ASTM A888; CISPI 301 |
| Copper or copper-alloy tubing (Type K, L, M or DWV) | ASTM B75; ASTM B88; ASTM B251; ASTM B306 |
| Polyethylene (PE) plastic pipe (SDR-PR) | ASTM F714 |
| Polyolefin pipe | ASTM F714; ASTM F1412; ASTM F3371; CSA  B181.3 |
| Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall | ASTM D2665; ASTM F891; ASTM F1488; CSA B181.2 |
| Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid, cellular core or composite wall | ASTM D2949; ASTM F1488 |
| Polyvinylidene fluoride (PVDF) plastic pipe | ASTM F1673; CSA B181.3 |
| Stainless steel drainage systems, Type 316L | ASME A112.3.1 |

For SI: 1 inch = 25.4 mm.

**TABLE 702.4 PIPE FITTINGS**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters | ASME A112.4.4; ASTM D2661; ASTM F628; CSA B181.1 |
| Acrylonitrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters | ASTM D2751 |
| Cast iron | ASME B16.4; ASME B16.12; ASTM A74; ASTM A888; CISPI 301 |
| Copper or copper alloy | ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.23; ASME B16.26; ASME B16.29 |
| Glass | ASTM C1053 |
| Gray iron and ductile iron | AWWA C110/A21.10 |
| Polyethylene | ASTM D2683 |
| Polyolefin | ASTM F1412; ASTM F3371; CSA B181.3 |
| Polyvinyl chloride (PVC) plastic in IPS diameters | ASME A112.4.4; ASTM D2665; ASTM F1866 |
| Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters | ASTM D3034 |
| Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. | ASTM D2949 |
| Polyvinylidene fluoride (PVDF) plastic pipe | ASTM F1673; CSA B181.3 |

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Stainless steel drainage systems, Types 304 and 316L | ASME A112.3.1 |
| Steel | ASME B16.9; ASME B16.11; ASME B16.28 |
| Vitrified clay | ASTM C700 |

For SI: 1 inch = 25.4 mm.

**705.13.1 Heat-fusion joints.** Heat-fusion joints for polyolefin pipe and tubing joints shall be installed with socket-type heat-fused polyolefin fittings or electrofusion polyolefin fittings. Joint surfaces shall be clean and free from moisture. The joint shall be undisturbed until cool. Joints shall be made in accordance with ASTM F1412, ASTM F3371 or CSA B181.3.

(P11025 / P120-21 Part I AS)

**TABLE 702.3 BUILDING SEWER PIPE**

Portions of table not shown remain unchanged.

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe (Profile Wall) | ASTM F2763 |

(P10989 / P107-21 AS)

**TABLE 702.3 BUILDING SEWER PIPE**

Portions of table not shown remain unchanged.

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe (corrugated wall) | ASTM F2947/F2947M |

(P10990 / P108-21 AS)

**702.6 Chemical waste drainage system.** A chemical waste drainage system, including its vent system, shall be completely ~~separated~~ independent from the sanitary drainage system. Separate drainage systems for chemical waste and vent pipes shall conform to one of the standards indicated in Table 702.6. The chemical waste shall be treated in accordance with Section 803.2 before discharging to the sanitary drainage system. ~~Separate drainage systems for chemical wastes and vent pipes shall be of an~~ *~~approved~~* ~~material that is~~ Chemical waste drainage system pipe and fitting materials shall be resistant to corrosion and degradation for the concentrations of chemicals involved per manufacturer recommendations.

Add new text as follows:

**TABLE 702.6 CHEMICAL WASTE DRAINAGE SYSTEM PIPE AND FITTINGS**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Chlorinated polyvinyl chloride (CPVC) | ASTM F2618 |
| Borosilicate glass | ASTM C1053 |
| High silicon iron | ASTM A518/A518M |
| Polypropylene (PP) | ASTM F1412 |
| Polyvinylidene flouride (PVDF) | ASTM F1673 |

(P10991 / P111-21 AMPC1)

**705.10.2 Solvent cementing.** Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D2855. Solvent-cement joints shall be permitted above or below ground.

**Exception:** A primer is not required where both of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D2564.

2. The solvent cement is used only for joining PVC drain, waste and vent pipe and fittings in nonpressure applications in sizes up to and including 4 inches (102 mm) in diameter.

3. The joint is made in accordance with ASTM F3328.

(P11682 / P117-21 part I AS)

**705.16 Joints between different materials.** Joints between different piping materials shall be made with a mechanical joint ~~of the~~ ~~compression or mechanical-sealing type~~ conforming to ASTM C1173, ASTM C1460 or ASTM C1461. Connectors and adapters shall be *approved* for the application and such joints shall have an elastomeric seal conforming to ASTM C425, ASTM C443, ASTM C564, ASTM C1440, ASTM F477, CSA A257.3M or CSA B602, or as required in Sections 705.16.1 through 705.16.7. Joints between glass pipe and other types of materials shall be made with adapters having a TFE seal. Joints shall be installed in accordance with the manufacturer’s instructions.

Add new text as follows:

**705.2.4 Mechanical joints above ground.** Mechanical joint couplings used above ground to connect ABS pipe to ABS pipe shall be of the shielded type and shall be marked by the manufacturer as being recommended for the application.

**705.10.5 Mechanical joints above ground.** Mechanical joint couplings used above ground to connect PVC pipe to PVC pipe shall be of the shielded type and shall be marked by the manufacturer as being recommended for the application.

(P11027 / P124-21 AS)

Revise as follows: (add the following sentence)

**718.1 Cured-in-place**. Cured-in-place rehabilitation of building sewers and building drainage piping shall be in accordance with ASTM F1216 - 2022 or ASTM F1743 - 2022. ~~Sectional cured-in-place rehabilitation of~~ *~~building sewer~~* ~~piping and sewer service lateral piping shall be in accordance with ASTM F2599. Main and lateral cured-in-place rehabilitation of~~ *~~building sewer~~* ~~and sewer service lateral piping and their connections to the main sewer pipe shall be in accordance with ASTM F2561. Hydrophilic rings or gaskets in cured-in-place rehabilitation of~~ *~~building sewer~~* ~~piping and sewer service laterals shall be in accordance with ASTM F3240 to ensure water tightness and elimination of ground water penetration.~~

P-FBC-P-Ch.7-Glitch #2

**CHAPTER 8 INDIRECT/SPECIAL WASTE**

No change

**CHAPTER 9 VENTS**

**901.3 Chemical waste drainage vent systems.** The vent system for a chemical waste drainage system shall be independent of ~~the~~ ~~sanitary vent system and shall terminate separately~~ any sanitary drainage vent system. The termination of a chemical waste drainage vent system shall be through the roof to the outdoors or to an air admittance valve that complies with ASSE 1049. Air admittance valves for chemical waste drainage systems shall be constructed of one of the materials *~~approved~~* ~~in accordance with Section~~ listed in table 702.6 and shall be tested for chemical resistance in accordance with ASTM F1412.

**902.1.1 Chemical waste drainage system vents.** The pipe and fitting materials for a chemical waste drainage vent system shall be in accordance with Section 702.6. The methods utilized for construction and installation of such venting system shall be in accordance with the pipe and fitting manufacturers' instructions.

(P10991 / P111-21 AMPC1)

**CHAPTER 10 TRAPS, INTERCEPTORS AND SEPARATORS**

No change

**CHAPTER 11 STORM DRAINAGE**

**TABLE 1102.4 BUILDING STORM SEWER PIPE**

**Portions of table not shown remain unchanged.**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe | ASTM F667; ASTM F2306/F2306M; ASTM F2648/F2648M;CSA B182.8 |

(P11076 / P136-21 AS)

TABLE 1102.4 BUILDING STORM SEWER PIPE

Portions of table not shown remain unchanged.

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe | ASTM F667; ASTM F2306/F2306M; ASTM F2648/F2648M;ASTM F2947 |

TABLE 1102.7 PIPE FITTINGS

Portions of table not shown remain unchanged.

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe | ASTM F2306/F2306M; ASTM F2947/F2947M |

(P11081 / P142-21 AS)

**TABLE 1102.5 SUBSOIL DRAIN PIPE**

Portions of table not shown remain unchanged.

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe | ASTM F405; ASTM F667; CSA B182.1; CSA B182.6; CSA B182.8 |

(P11079 / P140-21 Part I AS)

TABLE 1102.7 PIPE FITTINGS

Portions of table not shown remain unchanged.

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe | ASTM F2306/F2306M; ASTM F2763 |

TABLE 1102.4 BUILDING STORM SEWER PIPE

Portions of table not shown remain unchanged.

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe | ASTM F667; ASTM F2306/F2306M; ASTM F2648/F2648M; ASTM F2763 |

(P11028 / P135-21 AS)

TABLE 1102.7 PIPE FITTINGS

**Portions of table not shown remain unchanged.**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe | ASTM F2306/F2306M; ASTM F667/F667M |

(P11082 / P143-21 Part I AS)

TABLE 1102.7 PIPE FITTINGS

**Portions of table not shown remain unchanged.**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyvinyl chloride (PVC) plastic | ASTM D2665; ASTM D3311; ASTM F1866; ASTM F3202 |

(P11084 / P144-21 AS)

**TABLE 1102.7 PIPE FITTINGS**

Portions of table not shown remain unchanged.

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polypropylene (PP) plastic pipe | ASTM F2764 |

TABLE 1102.4 BUILDING STORM SEWER PIPE

Portions of table not shown remain unchanged.

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polypropylene (PP) pipe | ASTM F2764; ASTM F2881; CSA B182.13 |

(P11077 / P138-21 AS)

**TABLE 1102.7 PIPE FITTINGS**

**Portions of table not shown remain unchanged.**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polypropylene (PP) plastic pipe | ASTM F2881/F2881M |

(P11078 / P139-21 AS)

**CHAPTER 12 SPECIAL PIPING AND STORAGE SYSTEMS**

No change

**CHAPTER 13 NONPOTABLE WATER SYSTEMS**

1302.9 Pumping and control system. Mechanical equipment including pumps, valves and filters shall ~~be~~ have ~~easy~~ access and be removable in order to perform repair, maintenance and cleaning. The minimum flow rate and flow pressure delivered by the pumping system shall be appropriate for the application and in accordance with Section 604 .

**(P10920/G1-21 Part IV)**

**CHAPTER 14 SUBSURFACE GRAYWATER SOIL ABSORPTION SYSTEMS**

No change

**CHAPTER 15 REFERENCED STANDARDS**

**Add new standard(s) as follows:**

CSA Group 8501 East Pleasant Valley Road Cleveland, OH 44131-5516

**CSA**

B182.8-18 Profile Polyethylene (PE) Storm Sewer and Drainage Pipe and Fittings

(P11076 / P136-21 AS)

Add new text as follows:

Add new standard(s) as follows:

IAPMO Group 4755 E. Philadelphia Street Ontario, CA 91761 USA

**IAPMO**

ANSI/CAN/IAPMO/ISO 30500- 2019 Non-sewered sanitation systems - Prefabricated integrated treatment units - General Safety and performance requirements for design and testing

(P10899 / P13-21 AM)

Add new standard(s) as follows:

ASSE International 18927 Hickory Creek Drive, Suite 220

**ASSE**

Mokena, IL 60448

1023-19 *Performance Requirements for Electrically Heated or Cooled Water Dispensers*

UL LLC

**UL**

333 Pfingsten Road

Northbrook, IL 60062-2096

~~499-2014 Standard for Electric Heating Appliances with revisions through February 23, 2017~~

(P10938 / P51-21 AM)

Add new standard(s) as follows:

ASSE International 18927 Hickory Creek Drive, Suite 220

**ASSE**

Mokena, IL 60448

1014-2020 Performance Requirements for Backflow Prevention Devices for Hand-held Showers

(P10935 / P47-21 AS)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

ASTM D2855-15 Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

F3328-18 Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

(P10979 / P74-21 Part I AS)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

D2855-20 Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly(Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

F3328-19 Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

(P10982 / P76-21 part I AS)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

A554-16 Standard Specification for Welded Stainless Steel Mechanical Tubing

(P10949 / P61-21 Part I AMPC1)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

A554-16 Standard Specification for Welded Stainless Steel Mechanical Tubing

(P10951 / P62-21 Part I AM PC1)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

A554-16 Standard Specification for Welded Stainless Steel Mechanical Tubing

(P10966 / P63-21 Part I AMPC1)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F3347-20A Standard Specification for Metal Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

(P10972 / P64-21 Part I AS)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F3348-20b Standard Specification for Plastic Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

(P10974 / P65-21 Part I AS)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F2763-16 Standard Specification for 12 to 60 in. [300 to 1500 mm] Dual and Triple Profile-Wall Polyethylene (PP) Pipe and Fittings for Sanitary Sewer Applications

(P10989 / P107-21 AS)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F2947/F2947M-20 Standard Specification for 150 to 1500 mm [6 to 60 in] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications

(P10990 / P108-21 AS)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F2618-19 Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Fittings for Chemical Waste Drainage Systems

A518/A518M-99(2018) Standard Specification for Corrosion-Resistant High-Silicon Iron Castings

(P10991 / P111-21 AMPC1)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F3328-19 Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

(P11682 / P117-21 part I AS)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F2947/F2947M-20 Standard Specification for 150 to 1500 mm [6 to 60 in.] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications

(P11081 / P142-21 AS)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F2763-16 Standard Specification for 12 to 60 in. [300 to 1500 mm] Dual and Triple Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications

(P11028 / P135-21 AS)

Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F3202-19a Standard Specification for Solid Wall Poly (Vinyl Chloride) PVC Fittings for Joining Corrugated Wall High Density Polyethylene (PE) and Propylene (PP) Piping

(P11084 / P144-21 AS)

**Add new standard(s) as follows:**

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F2764/2764M-19 Standard Specification for 6 to 60 in. [150 to 1500 mm] Polypropylene (PP) Corrugated Double and Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications

(P11077 / P138-21 AS)

**Add new standard(s) as follows:**

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F2881/F2881M-19 Standard Specification for 12 to 60 in. [300 to 1500 mm] Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

(P11078 / P139-21 AS)

##### Add new standard(s) as follows:

ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959

**ASTM**

F3371-19 Standard Specification for Polyolefin Pipe and Fittings for Drainage, Waste, and Vent

(P11025/P120-21 Part I AS)