

2018 International Plumbing Code

Review of the revisions in Chapter 4

Fixtures, Faucets and Fixture Fittings



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Minimum Standard Construction Codes in Georgia

While you are reading and studying these classes on construction codes in Georgia it is important to understand what Georgia says about the codes. Codes are law and are to be enforced as such.

From the early 1960s until 1991 there were no statewide construction codes. It was entirely up to a local government to decide which codes they would enforce on construction projects in their jurisdiction. This caused a lot of confusion in the construction industry. The state decided to remedy the situation by adopting statewide Minimum Standard Construction Codes so no matter where you worked in the state you would be required to meet the same level of quality and standard on all construction projects. This bill passed and became law in 1991 and was known as “Uniform Codes Act”. It set up eight mandatory codes that covered all phases of construction and set the minimum standards for all work performed. An additional six permissive codes were also adopted that cover existing buildings and other issues. The Georgia Department of Community Affairs is the state agency that manages the Code program.

While codes are state laws, the state delegated code enforcement to the local governments. It is required that they adopt administrative procedures on how they will enforce codes and declare which codes they will enforce. As with many state laws. If the local jurisdiction does not enforce codes, the person installing a plumbing, electrical or heating system or building a structure must still meet these minimum standards. If a person is found guilty of not complying with these requirements, they will be held responsible by the courts. The next slide shows the current Minimum Standard codes for Georgia.

2020 State Adopted Mandatory Construction Codes

- 2018 International Building Code (IBC)**
- 2018 International Residential Building Code (IRC)**
- 2018 International Plumbing Code (IPC)**
- 2018 International Mechanical Code (IMC)**
- 2018 International Fuel Gas Code IFGC)**
- 2018 International Fire Code (IFC)**
- 2015 International Energy Code (IECC)**
- 2017 National Electrical Code. (NEC)**
- **2018 International Swimming Pool and Spa Code (IPSC)**

•Except for the National Electrical Code, all codes listed above have Georgia Amendments which change the requirements of the code. Amendments must be used in conjunction with the code to determine compliance of work performed.

•The Latest edition of the Codes are adopted by the state every six years.
Amendments can be adopted yearly

•Amendments can be found on the DCA: **[websitedca.ga.gov/constructioncodes](https://www.dca.ga.gov/constructioncodes)**

□ **Revisions to the 2018 International Plumbing Chapter 4**

- **Chapter 4** of the international plumbing code covers the number, type and installation requirements for fixtures located in a building. The number of required fixtures is based upon the occupant load and the activity in the building. Table 403.1 list the classification of a building. Classifications are listed as Assembly, Business, Residential, Educational, Factory & Industrial, Institutional, Mercantile and Storage. This table also list a description of the activities held in the building. For instance, the classification of Assembly covers buildings where there will be a group of people assembling for certain purpose. A place of worship is an assembly just as a bar or restaurant. Because the activity will be different the number and type of fixtures required will be different as well. Using table 403.1 and the other guidelines in chapter 4 it is possible to determine the correct number of fixtures needed in each building. Chapter 4 list all the major fixtures generally found in buildings and gives installation requirements such as spacing, enclosure and other important information. Chapter 4 contains a number of amendments adopted by the state that changed requirements on certain fixtures. These are in the online classes covering Georgia amendments

Revisions to the 2018 International Plumbing Code

Chapter 4

Fixtures

CODE REVISION TO THE 2018 IPC

403.1 Determining Minimum Number of Plumbing

Table 403.1 A revision to the table removed the term Occupancy from the table's headings. It is used by the Building Code in determining the classification of the building. The International Code Council felt it was redundant to have both the terms Classification and Occupancy on the table when they cover the same issue.

TABLE 403.1
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES^a
(See Sections 403.2 and 403.3)

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN ^{a,1} (SEE SECTION 410.1)	OTHER
				MALE	FEMALE	MALE	FEMALE			
1	Assembly	A-1 ^d	Theaters and other buildings for the performing arts and motion pictures	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		A-2 ^d	Nightclubs, bars, taverns, dance halls and buildings for similar purposes	1 per 40	1 per 40	1 per 75		—	1 per 500	1 service sink
			Restaurants, banquet halls and food courts	1 per 75	1 per 75	1 per 200		—	1 per 500	1 service sink
		A-3 ^d	Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
			Passenger terminals and transportation facilities	1 per 500	1 per 500	1 per 750		—	1 per 1,000	1 service sink
			Places of worship and other religious services.	1 per 150	1 per 75	1 per 200		—	1 per 1,000	1 service sink

CODE REVISION TO THE 2018 IPC

403.1 Determining Minimum Number of Plumbing

The IBC occupancy classifications (A, B, M, etc.) are no longer used to determine which row in Table 403.1, Minimum Number of Required Plumbing Fixtures, to use for fixture quantities. The actual use of the building or space determines which row in the table to use.

403.1 Minimum Number of Fixtures. Plumbing fixtures shall be provided ~~for the type of occupancy and~~ in the minimum number as shown in Table 403.1 based upon the actual use of the building or space. ~~Types of occupancies~~ Uses not shown in Table 403.1 shall be considered individually by the code official. The number of occupants shall be determined by the *International Building Code*. ~~Occupancy classification shall be determined in accordance with the International Building Code.~~

TABLE 403.1
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES^a
(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 pictures ^d	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		Nightclubs, bars, taverns, dance halls and buildings for similar purposes ^d	1 per 40	1 per 40	1 per 75		—	1 per 500	1 service sink
		Restaurants, banquet halls and food courts ^d	1 per 75	1 per 75	1 per 200		—	1 per 500	1 service sink

(continued)

CODE REVISION TO THE 2018 IPC

Modification to Table 403.1 Removed Occupancy Classification

TABLE 403.1 Minimum Number of Required Plumbing Fixtures^a
(See Sections 403.1.1 and 403.2)

Classification	Description	Occupancy	Water Closets		Lavatories		Bathtubs/ Showers	Drinking Foundation	Other
			Male	Female	Male	Female			



CODE REVISION TO THE 2018 IPC

403.1 Determining Minimum Number of Plumbing

Table 403.1 The new designation of **gaming areas** was added under the assembly classification. These type areas are normally found in casinos and gambling establishments. It established the requirements for the number and type of fixtures supporting these areas. The maximum occupant load used is divided into male and female. Because in some situations like this one the code requires more fixtures for women than men, To determine the number for each sex the occupant load is divided in half , 50% for men and 50% for women.

TABLE 403.1 —continued
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES^a
(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			
		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

CODE REVISION TO THE 2018 IPC

Modification to Table 403.1

Assembly areas used for gaming (gambling) now have specific ratios for plumbing fixture requirements.

TABLE 403.1 Minimum Number of Required Plumbing Fixtures^a
(See Sections 403.1.1 and 403.2)

Classification	Description	Water Closets (Urinals: See Section 419.2)		Lavatories		Bathtubs/ Showers	Drinking Foundation	Other
		Male	Female	Male	Female			
Assembly	<u>Gaming areas</u>	<u>1 per 100 for the first 400 and 1 per 250 for the remainder exceeding 400</u>	<u>1 per 50 for the first 400 and 1 per 150 for the remainder exceeding 400</u>	<u>1 per 250 for the first 750 and 1 per 500 for the remainder exceeding 750</u>		—	<u>1 per 1,000</u>	1 service sink



CODE REVISION TO THE 2018 IPC

403.1 Determining Minimum Number of Plumbing

Table 403.1 was revised regarding the required fixtures in the bathrooms at a public or community pool. **Note “F”** of the table now refers you to Chapter 6 of the **International Swimming Pool and Spa Code** for those bathroom requirements.

Section 609 of the ISPSC has requirements on how many fixtures are needed and the numbers are based off maximum occupant load at peak times. The maximum occupant load is determined by calculating the area of both the pool and the decking around it. Table 608.1 breaks the load allowances down to the number of occupants per square footage. For instance, the occupant load for the shallow part of the pool is based on 8 sq. ft/per person. The load for the decking around the pool is 15 sq. ft/per person. Section 609.1 requires that pools with an area less than 7500 sq. ft of area must have one toilet, urinal and lavatory for males and two toilets and one lavatory for females. Both bathrooms are required to have a shower. Pools with an area of 7500 sq. Ft or more must calculate the fixture numbers per the code formula.

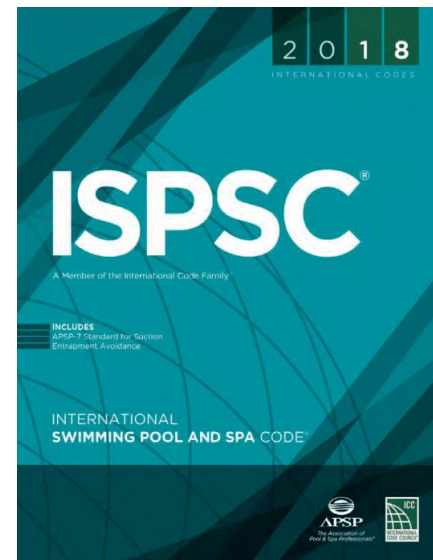
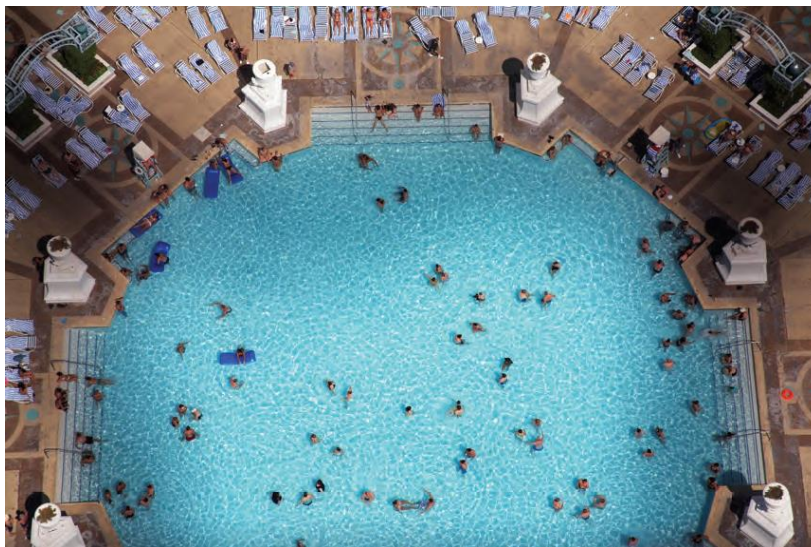
CODE REVISION TO THE 2018 IPC

Table 403.1 Plumbing Fixtures for Outdoor Public Swimming Pools

Addition of footnote f. to Table 403.1

Outdoor public swimming pools now have specific requirements for plumbing fixtures.

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.



CODE REVISION TO THE 2018 IPC

403.1.2 Single User Toilet Facility Identification. Single occupancy port facilities and family and assisted use toilet rooms are becoming more common in all classification of buildings. The use for these facilities has grown making it easier for a handicap person to use a bathroom without difficulty or embarrassment. While all public and employee restrooms are required to included handicap accessible fixtures the single occupant toilet rooms offer better privacy and ease of use. The plumbing code gives a credit for installing these type of facilities by allowing the toilet and laboratory to be counted toward the number of fixtures required for both men and women. 2018 IPC was revised to state that single occupant toilet facilities or family assisted toilet rooms must be identified for use by either sex.



CODE REVISION TO THE 2018 IPC

403.1.2 Single User Toilet Facility Identification

Single-user toilet facilities having required plumbing fixtures must now be labeled for use by either sex.

403.1.2 Family or assisted-use Single-user toilet facility and bath bathing room fixtures. Fixtures The plumbing fixtures located within in single-user toilet facilities and bathing rooms, including family or assisted-use toilet and bathing rooms that are required by Section 1109.2.1 of the *International Building Code*, shall contribute towards the total number of required plumbing fixtures for a building or tenant space. Single-user toilet facilities and mercantile occupancies bathing rooms, and family or assisted-use toilet rooms and bathing rooms shall be identified for use by either sex.



CODE REVISION TO THE 2018 IPC

403.1.3 Lavatory Distribution. In almost all cases the number of toilets is larger than the number of laboratories required for bathroom facilities in a building. Until now there was nothing in the code that set the ratio of lavatories to the number of toilets or urinals. It was left up to the design professional to distribute these fixtures between the restrooms. To correct this the 2018 IPC was revised to say that the laboratories must be distributed proportionally to the number of water closets and urinals in a bathroom. This makes sure that when that multiple toilet facilities are located in a building, the number of laboratories in each restroom are adequate to support the number of toilets and urinals.

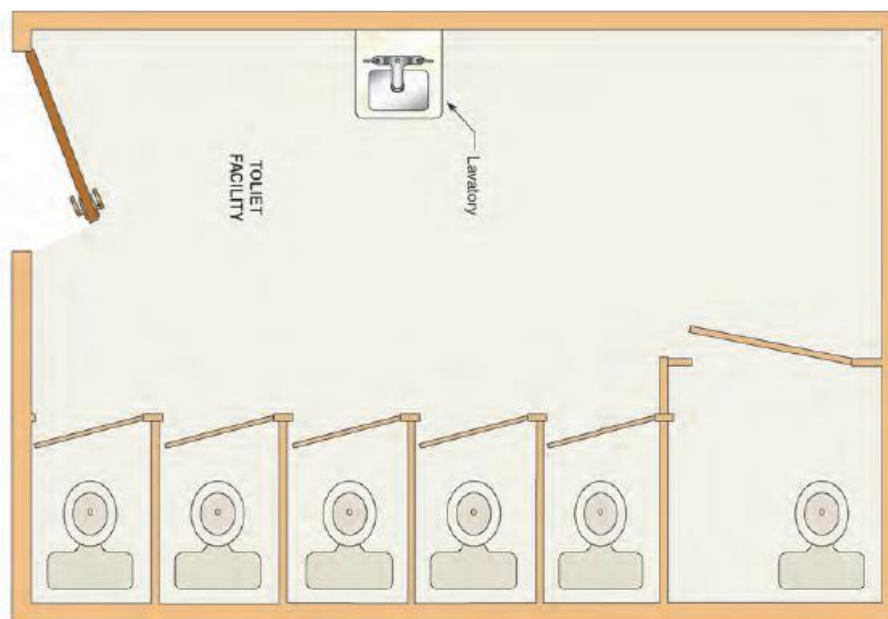


CODE REVISION TO THE 2018 IPC

403.1.3 Distribution of Lavatories

Multiple toilet facilities in a building for the same sex must have the required lavatories distributed proportionally.

403.1.3 Lavatory distribution. Where two or more toilet rooms are provided for each sex, the required number of lavatories shall be distributed proportionately to the required number of water closets.



CODE REVISION TO THE 2018 IPC

403.2 Separate Facilities, Note 4. In the 2012 IPC a building or tenant space with an occupant load of 15 or less could have a single unisex restroom shared between men and women. When the occupant load exceeded 15 a separate restroom was required for each gender. The low number 15 often put a hardship on a small business because their number of customers and employees often exceeded that number and would trigger the need for the second facility. Tennant spaces were almost always built with a single bathroom and adding a second bathroom was a big expense. The 2018 IPC increased the occupant load to 25 to allow small businesses to have more employees and customers without having to add the second bathroom. This revision was based on a nation study done by the Better Business Bureau in regard to the problems small businesses faced in the market. The start up cost often make it tough for an owner to get his new business into the market. The revision to Note 4 raised the number for 15 to 25 and reduced the number of businesses required to add an additional restroom.



CODE REVISION TO THE 2018 IPC

403.2 Facilities for Small Business Occupancies

Business occupancies having 25 or fewer persons are allowed to have the required single-user toilet rooms not labeled for use by a specific sex.

2018 CODE: 403.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

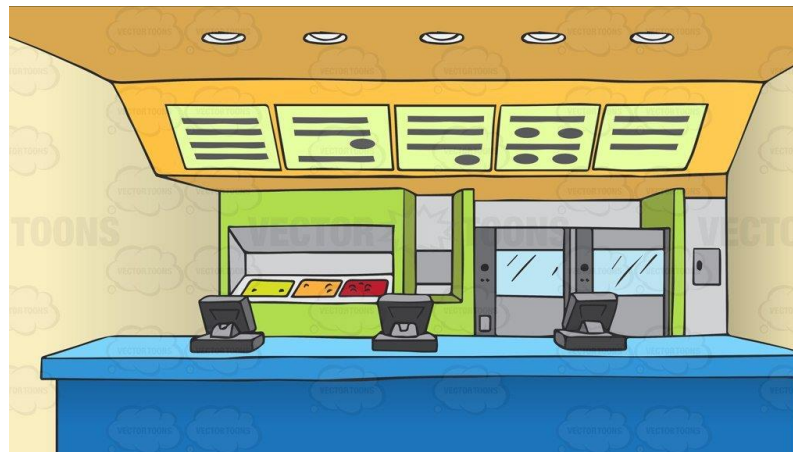
Exceptions:

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



CODE REVISION TO THE 2018 IPC

Section 403.3 Public Toilet Facilities. The 2018 plumbing code revised a requirement concerning the need to provide toilet facilities for the public in structures and tenant spaces that are intended for public utilization. Under the IPC (Georgia Law) almost all occupancies where the public is invited in to purchase goods or services, a restroom must be provided for the their use. The 2018 IPC made a change on this requirement concerning quick transaction facilities. Many locations such as fast food take-out locations or dry-cleaning establishments are set up with no public seating and have a limited space for people to congregate while waiting for the food or service. The code added an exception to the requirement for public restrooms at business locations which are set up for quick business transactions (take-out, pickup or drop-off) and have a public access area of 300 square-feet or less. These are no longer required to provide public toilets.



CODE REVISION TO THE 2018 IPC

403.3 Required Public Toilet Facilities Exception

Occupancies that have limited areas for public access, such as dry cleaners, take-out only restaurants and automated teller machine lobbies, do not require public toilet facilities for those limited areas (300 ft² or less).

403.3 Required Public Toilet Facilities. Customers, patrons and visitors shall be provided with public toilet facilities in structures and tenant spaces intended for public utilization. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 403 for all users. Employees shall be provided with toilet facilities in all occupancies. Employee toilet facilities shall be either separate or combined employee and public toilet facilities.

Exceptions: Public toilet facilities shall not be required in:

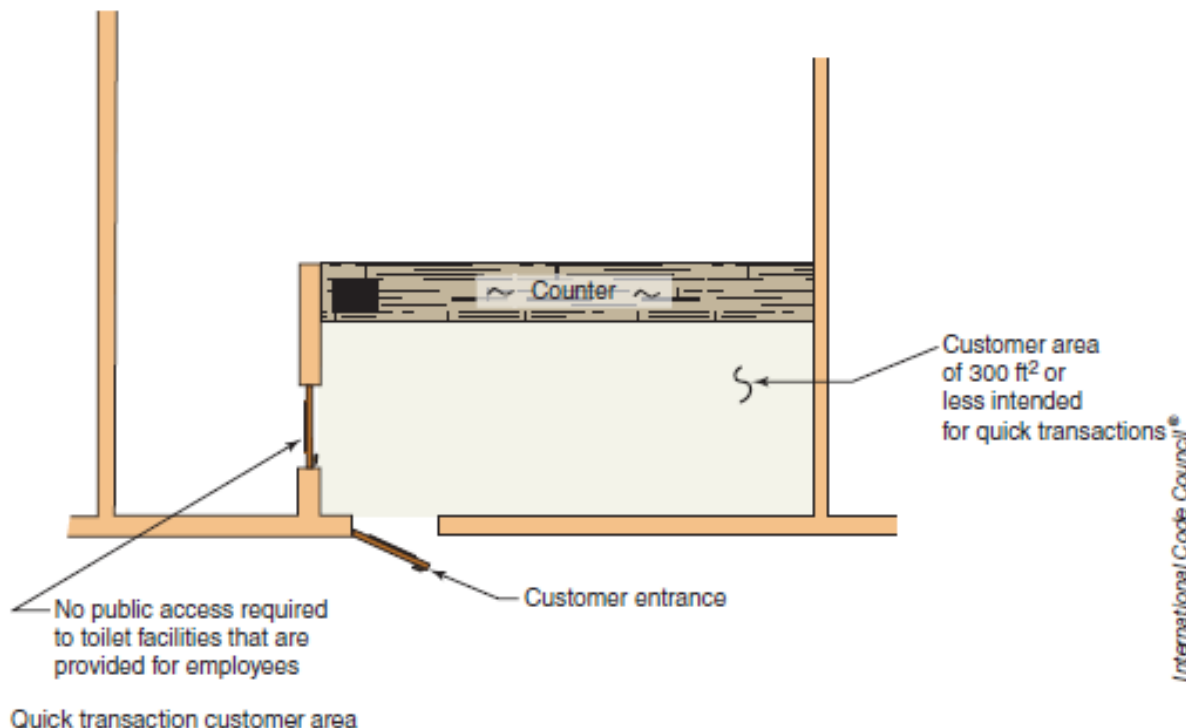
1. Open or enclosed parking garages where there are no parking attendants.

2. Structures and tenant spaces intended for quick transactions, including take out, pick up and drop off, having a public access area less than or equal to 300 ft² (27.9 m²).

CODE REVISION TO THE 2018 IPC

403.3 Required Public Toilet Facilities Exception

Occupancies that have limited areas for public access, such as dry cleaners, take-out only restaurants and automated teller machine lobbies, do not require public toilet facilities for those limited areas (300 ft² or less).



CODE REVISION TO THE 2018 IPC

403.3 Employee and Public Toilet Facilities. An additional clarification on the requirement to provide public toilet facilities made it clear that as long as public toilet facilities were located within 300 feet of the tenant space or structure then the business owner was not required provide access to the toilets within their facility. Open-air malls and outlet centers are a prime example where public toilets are provided in the tenant spaces are not required to provide access to their bathrooms.



CODE REVISION TO THE 2018 IPC

(Revised) The required toilet facilities for a building or tenant space do not need to be “in” the building that requires the toilet facilities.

403.3 Employee and public toilet facilities. For structures and tenant spaces intended for *public* utilization, customers, patrons and visitors shall be provided with *public* toilet facilities. Employees associated with structures and tenant spaces shall be provided with toilet facilities. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 403 for all users. Employee toilet facilities shall be either separate or combined employee and *public toilet facilities*



CODE REVISION TO THE 2018 IPC

403.4.1 Directional Signage. The 2012 IPC added the requirements for directional signage to restroom locations. Many times, a facility will use multiple toilet facilities to meet the fixture count for the occupant load. A person unfamiliar with the building might assume that a small restroom they find is the only restroom for the building. The requirement for directional signs were added so that customers would be directed to the other restrooms in the building. The 2018 IPC code carried this one step further by requiring a sign be posted at the front entrance of the building to direct a person to the restrooms.



CODE REVISION TO THE 2018 IPC

403.4.1 Directional Signage for Location of Public Toilet Facilities

The provision for directional signs to public toilet facilities now requires that the signage be located at the main entrance to the building or tenant space.

403.4.1 Directional Signage. Directional signage indicating the route to the required public toilet facilities shall be posted ~~in accordance with Section 3107 of the *International Building Code*. Such signage shall be located~~ in a lobby, corridor, or aisle or similar space, such that it can be readily seen from the main entrance to the building or tenant space. ~~facilities for customers, and visitors.~~



CODE REVISION TO THE 2018 IPC

405.3.1 Water Closets, Urinals, Lavatories and Bidets. This section added an exception on the minimum distance clearances required for fixtures. The IPC requires a minimum of 15 inches from the center of a water closet, urinal, lavatory and a bidet from to a side wall, partition, vanity or other obstruction. Where there is no partitions between fixtures the minimum distance from center to center on fixtures is 30 inches. The section also requires a minimum of 21 inches clearance in front of fixtures. The exception added established the minimum distance of 12 inches from the center of a children's handicap accessible water quality to the side wall.

Advisory Specifications for Water Closets Serving Children Ages 3 through 12			
	Ages 3 and 4	Ages 5 through 8	Ages 9 through 12
Water Closet Centerline	12 inches (305 mm)	12 to 15 inches (305 to 380 mm)	15 to 18 inches (380 to 455 mm)
Toilet Seat Height	11 to 12 inches (280 to 305 mm)	12 to 15 inches (305 to 380 mm)	15 to 17 inches (380 to 430 mm)
Grab Bar Height	18 to 20 inches (455 to 510 mm)	20 to 25 inches (510 to 635 mm)	25 to 27 inches (635 to 685 mm)
Dispenser Height	14 inches (355 mm)	14 to 17 inches (355 to 430 mm)	17 to 19 inches (430 to 485 mm)

CODE REVISION TO THE 2018 IPC

405.3.1 Clearance of Plumbing Fixtures to Obstructions

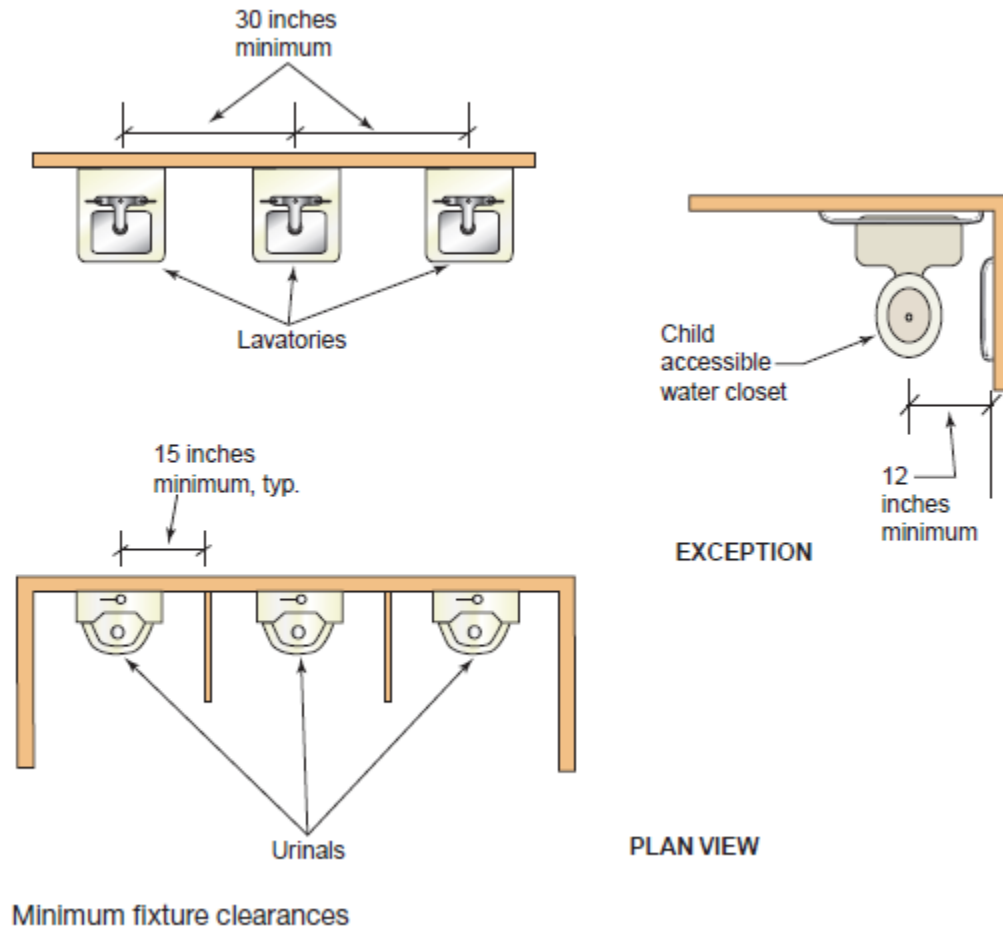
The minimum distances from a fixture's centerline to other fixtures or obstructions is clarified.

405.3.1 Water closets, urinals, lavatories and bidets. A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction. Where partitions or other obstructions do not separate adjacent fixtures, fixtures shall not be set closer than 30 inches (762 mm) center to center between adjacent fixtures. There shall be not less than a 21-inch (533 mm) clearance in front of a water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall be not less than 30 inches (762 mm) in width and not less than 60 inches (1524 mm) in depth for floor-mounted water closets and not less than 30 inches (762 mm) in width and 56 inches (1422 mm) in depth for wall-hung water Closets.

Exception: An accessible children's water closet shall be set not closer than 12 inches (305 mm) from its center to the required partition or to the wall on one side.

CODE REVISION TO THE 2018 IPC

405.3.1 Clearance of Plumbing Fixtures to Obstructions



CODE REVISION TO THE 2018 IPC

405.3.5 Urinal Partitions. This code section was revised clarify that the minimum distance between partitions for urinals is 30 inches. The early Southern Standard Plumbing code required 24 inches clearance between petitions in front of a urinal. The dimension was changed when Georgia adopted the International Plumbing code (IPC). It required 30 inches which was the new recognized design standard for personal space. This measurement is taken from the inside of one petition to the inside of the one on the other side, The reason this issue was clarified was because plumbers were not allowing for the petition when roughing in the fixtures, **Note to plumbers, it is important to allow for the partition thickness when roughing in the urinal.**

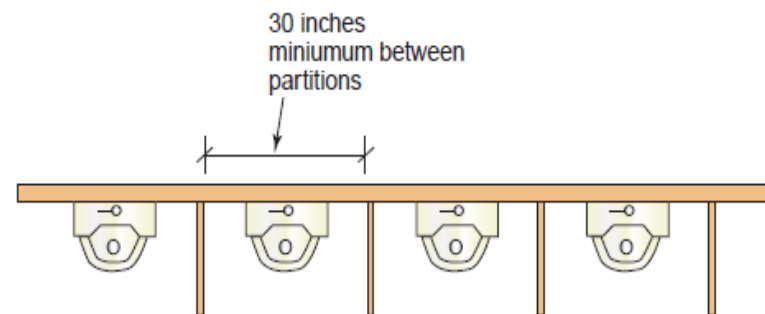


CODE REVISION TO THE 2018 IPC

405.3.5 Minimum Dimension between Urinal Partitions

The minimum distance between urinal partitions is clarified.

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.



PLAN VIEW

Minimum clearance between urinal partitions

CODE REVISION TO THE 2018 IPC

405.5 Plumbing Fixtures With a Pump Waste. Macerating toilets have been allowed by the IPC for the past 25 years and many manufacturers offer these type toilets with pumped waste. Because of the ability of these pumps to liquefy the waste many are allowed to be discharged through a three-quarter inch pipe. The simple tie in of the discharge line to the existing drainage makes the installation and location of these fixtures more flexible. Because of the different steps required during installations, the code requires installation to be performed in compliance with manufacturer's instructions.



CODE REVISION TO THE 2018 IPC

405.5 Pumped Waste Plumbing Fixtures

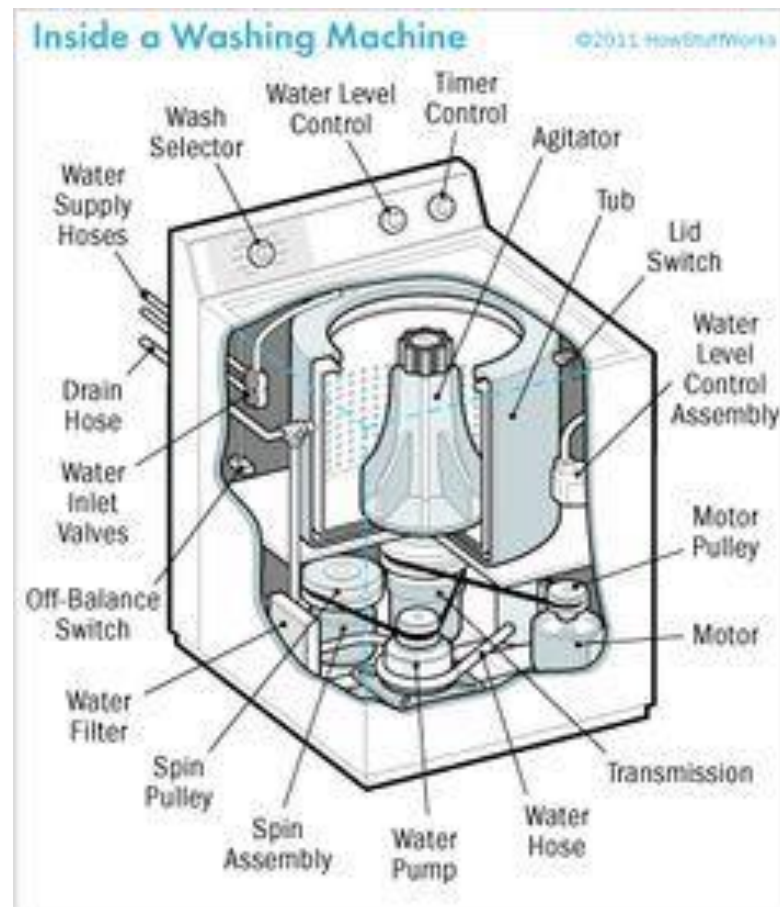
Plumbing fixtures having a pumped waste arrangement must comply with a standard that covers the integral waste pumping system.

405.5 Plumbing fixtures with a pumped waste. Plumbing fixtures with a pumped waste shall comply with ASME A112.3.4/CSA B45.9. The plumbing fixture with a pumped waste shall be installed in accordance with the manufacturer's instructions.



CODE REVISION TO THE 2018 IPC

406.1 Water Connection. The potable water supply for both an automatic close washer and a dishwasher is required by the code to be protected by an air gap or a backflow preventer. Often when an air gap was used it was difficult for the inspector to verify that it was installed correctly. The 2018 IPC requires that the air gaps shall comply with ASME A112.1.3 or A112.1.2. It is now possible for an inspector to verify that they meet the code by reviewing the labeling on the appliance or the manufacturer's instructions.



CODE REVISION TO THE 2018 IPC

406.1, 409.2 Backflow Protection for Clothes Washing and Dishwashing Machines

2012 IPC required that an air gap within the appliance or an external backflow preventer in the appliance connections be provided. **The 2018 IPC** modification adds the standards designations with which air gaps must comply, so that the enforcement can be accomplished by the inspector identifying those standard numbers either on the machines or in the literature for the machines.

2015 Code: 406.1 Water Connection.

The water supply to an automatic clothes washer shall be protected against backflow by an air gap that is integral ~~with installed~~ **integrally** within the machine or ~~with the installation of~~ a backflow preventer shall be installed in accordance with Section 608. Air gaps shall comply with ASME A112.1.3 or A112.1.2.



CODE REVISION TO THE 2018 IPC

409.1 Approval. Commercial dishwashing machines are required to meet a ASSE 104 and NSF 3. Residential dishwashers must conform to NSF 184. All of these deal with cleaning quality standards.

ASSE 1004/NSF – 3 This Standard applies to commercial dishwashing, glasswashing, and pot, pan, and utensil washing machines that wash their contents by applying sprays of detergent solutions with or without blasting media granules, and sanitize their contents by applying sprays of hot water or chemical sanitizing solutions. Stationary rack and conveyor machines are covered under this Standard. Equipment components and materials covered under other NSF or NSF/ANSI Standards or criteria shall also comply with the requirements therein. This Standard is not intended to restrict new unit design, provided that such design meets the minimum specifications described herein.

NSF – 184 This Standard establishes minimum public health and sanitation requirements for the materials, design, construction, and performance of residential dishwashing equipment and their related components.

CODE REVISION TO THE 2018 IPC

409.1 Residential Dishwasher Standard

Residential dishwashers must now comply with Standard NSF 184.

409.1 Approval. Commercial dishwashing machines shall conform to **ASSE 1004 and NSF 3**. Residential dishwashers shall conform to **NSF 184**.



CODE REVISION TO THE 2018 IPC

403.1 Determining Minimum Number of Plumbing

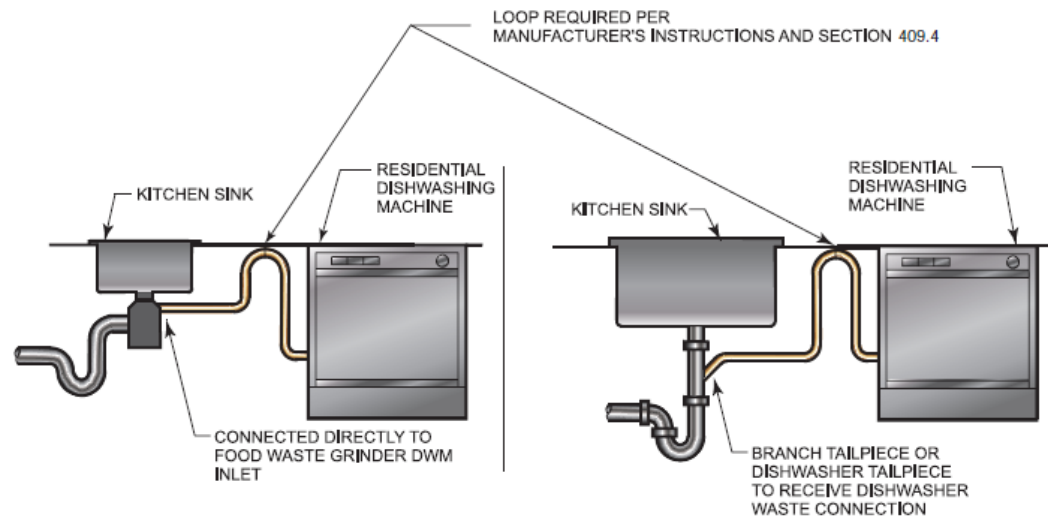
Table 403.1 A revision to the table removed the term Occupancy from the table's headings. It is used by the Building Code in determining the classification of the building. The International Code Council felt it was redundant to have both the terms Classification and Occupancy on the table when they cover the same issue.

CODE REVISION TO THE 2018 IPC

409.4 Residential Dishwasher Waste Connection

The requirement for residential dishwasher waste connections was moved from Section 802.1.6 to new Section 409.4. The language was modified for clarity.

409.4 Residential dishwasher waste connection. The waste connection of a residential dishwasher shall connect directly to a wye branch fitting on the tailpiece of the kitchen sink, directly to the dishwasher connection of a food waste disposer, or through an air break to a standpipe. The waste line of a residential dishwasher shall rise and be securely fastened to the underside of the sink rim or countertop.



Residential dishwasher waste connection

CODE REVISION TO THE 2018 IPC

403.1 Determining Minimum Number of Plumbing

410.4 Substitution. This section revised the code requirement on the the substitution of drinking fountains with other appliances. The 2012 IPC limited the substitution of drinking fountains by replacing it with either a water cooler or a bottle water dispenser. The 2018 IPC deleted the words water coolers and bottled water dispensers in the code section and replaced them with the term water dispenser. This added multiple appliances that could be used in place a drinking fountain. The definition of a water dispenser was added in Chapter 2 to support this code section. Note to plumber. A water dispenser is not allowed to replace a handicap accessible drinking fountain.



CODE REVISION TO THE 2018 IPC

410.4 Substitution for Drinking Fountains

The water dispenser definition expands the group of devices and apparatus that can be used as substitutions for 50 percent of the required number of drinking fountains.

410.4 Substitution. Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In other occupancies where drinking fountains are required, ~~water coolers or bottled~~ water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains.



CODE REVISION TO THE 2018 IPC

411.3 Water Supply. In 2003 ANSI updated the requirements on emergency showers and eyewash stations so that tempered water must be delivered to the fixture. This was done after a study revealed that a person being treated by these emergency procedures could be negatively impacted if sprayed with cold water. This revision clarifies how the water must be tempered by using a temperature actuated mixing valve complying with ASSE 1071.

Because of the difficulty of supplying tempered water in certain locations of a building, many companies such as Home Depot are using mobile eyewash stations and emergency showers. These are self contained units that have reservoirs that filter the water keep it at the correct temperature.



CODE REVISION TO THE 2018 IPC

411.3 Emergency Shower Temperature Control

Emergency shower or eye wash station water requires temperature control by an ASSE 1071 mixing valve.

411.3 Water supply. Where hot and cold water is supplied to an emergency shower or eyewash station, the temperature of the water supply shall only be controlled by a temperature actuated mixing valve complying with ASSE 1071.



CODE REVISION TO THE 2018 IPC

413.1 approval. The wording was revised from food waste grinders to a more common term food waste disposer. They also now required to be labeled and listed in accordance with UL 430 dealing with the operation and electrical safety.

Because these appliances have become more efficient over the years and the discharge does not have as much impact on the drainage system. The code no longer adds additional dfu's to the waste load when they are installed on a system. One major change in Chapter 10 of the 2018 IPC is that the waste from these units are no longer allowed to go into a grease interceptor, They must be tied into the sanitary drainage down stream of the interceptor.



CODE REVISION TO THE 2018 IPC

413.1 Food Waste Disposer Approval

Terminology for food waste grinders has been changed to a more industry-accepted term. For electrical safety, domestic food waste disposers must be listed and labeled to a standard.

413.1 Approval. Domestic food waste ~~grinders~~ disposers shall conform to ASSE 1008 and shall be listed and labeled in accordance with UL 430. Food waste grinders disposers shall not increase the drainage fixture unit load on the sanitary drainage system.



CODE REVISION TO THE 2018 IPC

417.4 .1 Wall Area. No requirements were changed in the revision of this section it was rewritten to make it easier to understand. It covers minimum dimensions (height) of the waterproof wallcovering used in a shower or a tub/shower. There is confusion concerning the illustration as to many individuals think it addresses the height of a showerhead. It does not. The 6-foot height shown here is addressing the minimum height the waterproof wall of a shower must extend above the floor of the bathroom.

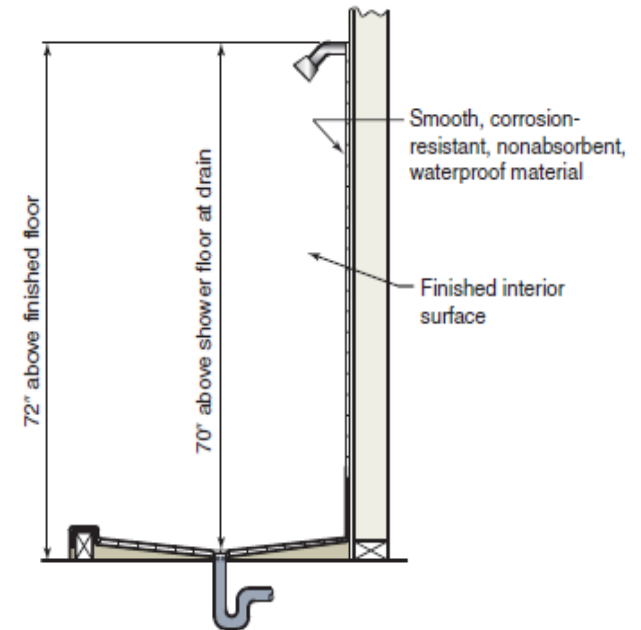
The code does not give a height requirement for a showerhead. That measurement is found in the manufacturer's instructions for the shower valve. Most manufacturers use the management of 6'6" above the floor.



417.4.1 Walls and Floors in Bathtub and Shower Areas

Bathtub floors, shower floors and the walls above those areas need to be watertight and of a material that will be durable Under wet conditions. This section has been modified to clarify the existing requirements.

417.4.1 Wall Area. Bathtub floors, shower floors, wall areas above built-in tubs with that have installed shower heads and walls in shower compartments shall be constructed of smooth, corrosion-resistant and nonabsorbent waterproof materials. Wall materials shall extend to a height of not less than 6 feet (1829 mm) above the room floor level, and not less than 70 inches (1778 mm) above the drain of the tub or shower. Such walls shall form a water-tight joint with each other and with either the tub or shower floor.



Dimensions for walls in showers and bathtub compartments

CODE REVISION TO THE 2018 IPC

403.1 Determining Minimum Number of Plumbing

Table 403.1 A revision to the table removed the term Occupancy from the table's headings. It is used by the Building Code in determining the classification of the building. The International Code Council felt it was redundant to have both the terms Classification and Occupancy on the table when they cover the same issue.

SECTION 419

URINALS

GA Amendment

Non-water urinals shall conform to ASME A112.19.3/CSA B45.4 or A112.19.19, CSA B45.4. Where non-water urinals are employed, they shall be cleaned and maintained in accordance with the manufacturer's instructions after installation. Where nonwater urinals are installed they shall have a properly sized water distribution line roughed-in to the urinal location at a minimum height of 56 inches (1,422 mm) to allow for the installation of an approved backflow prevention device in the event of a retrofit. Such water distribution lines shall be installed with shut-off valves located as close as possible to the distributing main to prevent the creation of dead ends. Where nonwater urinals are installed, a minimum of one water supplied fixture rated at a minimum of one water supply fixture unit shall be installed upstream on the same drain line to facilitate drain line flow and rinsing.

(Effective January 1, 2014)

CODE REVISION TO THE 2018 IPC

420.1 Approval. Many new types water closets are approved and used in plumbing systems. The code now lists third-party approvals for these fixtures as to show they are approved for use. Various standards apply to certain toilets based on their operation. Terms such as hydraulic performance, electro-hydraulic water closets and dual flushing water closets are now found in the code. Each must meet certain operational requirements in compliance the standard by which they are approved.

Design professional are specifying dual flush toilets on more projects help conserve water, There is some confusion on these fixture, Many use a 1,6 gallons to flush solids. Because of this people do not believe they meet Georgia's water conservation standard which allows 1.28 gallons. The definition of a dual flush toilet in Chapter 2 explains how to determine if these comply with Georgia's code. It takes the total water usage for 3 flushes (1 Solid & 2 Liquid). The average amount of water per flush determines if the fixture meets code.

If the toilet uses 1.6 for the solid flush and 1 gallon per liquid flush the total used for the three flushes equals 3.6 gallons. That is an average of 1.2 gallons per flush. The toilet complies with Georgia's code.

420.1 Water Closet Approval

Dual-flush water closets have become popular in recent years. The code now has a standard that covers those types of water closets.

420.1 Approval. Water closets shall conform to the water consumption requirements of Section 604.4 and shall conform to ANSI Z124.4, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5. Water closets shall conform to the hydraulic performance requirements of ASME A112.19.2/CSA B45.1. Water closet tanks shall conform to ANSI Z124.4, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5. Electro-hydraulic water closets shall comply with ASME A112.19.2/CSA B45.1.

Water closets equipped with a dual flushing device shall comply with ASME A112.19.14.



CODE REVISION TO THE 2018 IPC

421.1 Whirlpool Tub Approval

A standard for electrical safety for whirlpool tubs has been added to the code.

421.1 Approval. Whirlpool bathtubs shall comply with ASME A112.19.7/CSA B45.10 and shall be listed and labeled in accordance with UL1795.



CODE REVISION TO THE 2018 IPC

Sections 422 Healthcare Fixtures and Equipment. This section was deleted from the 2018 IPC. The plumbing code has struggled through the years to keep up with healthcare requirements concerning plumbing systems and Fixture installation. In the area healthcare there are many other standards and government regulations that dictate standards for installation and maintenance. Manufacturers have established instructions for the installation and maintenance of their equipment used in these facilities. The plumbing code cannot keep up with the fast-changing innovations and new health care standards in today's medical industry. While the code is only published every three years healthcare requirements are changing constantly. Because of this almost all code sections dealing with healthcare are outdated.

Almost all code sections that covered healthcare systems and facilities had be deleted or great modified.

CODE REVISION TO THE 2018 IPC

422 Health Care Requirements

Section 422 concerning Health Care Fixtures and Equipment is deleted.

~~SECTION 422~~

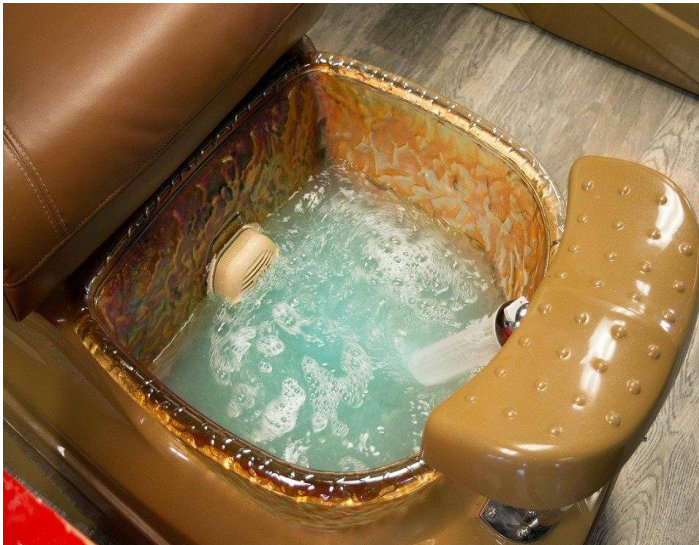
~~HEALTH CARE FIXTURES AND EQUIPMENT~~



CODE REVISION TO THE 2018 IPC

423.3 Footbaths, Pedicure Baths and Head Shampoo sinks. The IPC limits the temperature of hot water discharged from various fixtures to protect a person against scalding. While it does not require tempered water from a shower or deck mounted tub spout to be limited to 120°F.

This section of the 2018 IPC reduces the water temperature discharged into an Head Shampoo Sink, Footbath and Pedicure Baths to a maximum of 120°F. This reduces the likelihood of scalding.



CODE REVISION TO THE 2018 IPC

423.3 Footbaths, Pedicure Baths and Head Shampoo Sinks

Water-temperature-limiting devices are required for footbaths (integral or not integral to pedicure chairs) and head shampoo sinks.

Footbaths, Pedicure Baths and Head Shampoo Sinks. The water supplied to specialty plumbing fixtures such as pedicure chairs having an integral foot bath tub, footbaths and head shampoo sinks, shall be limited to a maximum temperature of 120°F (49°C) by a water temperature limiting device that conforms to ASSE 1070 or CSAB125.3.



CODE REVISION TO THE 2018 IPC

424.8 Transfer Valves. Transfer valves are another name given to a diverter which diverts a water from the tub spout to the showerhead. While diverters are often located on the tub spout transfer valves are mounted on the deck of the tub. Deck mounted transfer valves are normally used as part of the set up for handicap accessible tub. Deck mounting allows easier access to the valve than one mounted on the tub spout. It makes it easier for the person in the tub to change the water flow from the tub to the show. Because some handicap tubs equipped showers use a hand-held shower spray there is the possibility of backflow conditions occurring if the showerhead is in the tub when a pressure change occurs in the plumbing system. Due to this fact all transfer valves are required to be equipped with an interschool atmospheric vacuum breaker to protect against backflow.



CODE REVISION TO THE 2018 IPC

424.8 Deck-Mounted Bath/ Shower Transfer Valves

The standard to which deck-mounted bath/shower transfer valves must comply has changed.

424.8 Transfer Valves. Deck-mounted bath/shower transfer valves containing an integral atmospheric vacuum breaker shall conform to the requirements of ASME A112.18.1/CSA B125.1.

