

CHAPTER 29

PLUMBING SYSTEMS

SECTION 2901 PLUMBING CODE

Plumbing systems shall comply with the *Plumbing Code*.

SECTION 2902 NUMBER OF FIXTURES

2902.1 General. The number of plumbing fixtures within a building shall not be less than set forth for each type of building occupancy in Table 29-A. Fixtures located within unisex toilet and bathing rooms shall be included in determining the number of fixtures provided in an occupancy. Accessible toilet and bathing facilities shall be provided in accordance with Chapter 11. For sanitation requirements, see Section 1210.

Exceptions:

1. Required sanitary facilities for temporary uses shall be determined by the building official.
2. Buildings not normally occupied.

2902.2 Separate facilities. The occupant load factors shall be as shown in Table 29-A.

Exception: Where separate toilet facilities are provided for the public and employees, the number of required fixtures for employees shall be based on the actual number of employees on the largest shift.

The occupant load shall be divided equally between the sexes.

Exception: Where circumstances dictate that a different ratio is needed, the adjustment shall be approved by the building official.

2902.3 Separate facilities. Separate facilities shall be provided for each sex as specified in Table 29-A.

Exceptions:

1. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or less. The facility provided shall have one water closet and one lavatory in the same room with privacy lock and an "occupied" indicator.
2. Unisex restrooms may be provided in satisfying the total number of required fixtures.
3. Separate inmate facilities shall not be required in detention facilities, if serving one sex only.
4. Separate facilities shall not be required for dwelling units and sleeping units.

2902.4 Required public toilet facilities. Customers and patrons 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 2902.1

for all users. Employees shall be provided with toilet facilities in all occupancies. Employee toilet facilities shall either be separate or combined employee and public toilet facilities.

2902.4.1 Access. The route to the public toilet facilities required by Section 2902.4 shall not pass through kitchens, storage rooms or closets. Access to the required facilities shall be from within the building or from the exterior of the building. All routes shall comply with the accessibility requirements of this code. The public shall have access to the required toilet facilities at all times that the building is occupied.

Exception: In Group B (other than restaurants and dining facilities), F, H, M and S occupancies, toilet facilities may be located in an adjacent building on the same property.

2902.4.2 Location of toilet facilities in occupancies other than covered mall buildings. In occupancies other than *covered mall buildings*, the required public and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities and the path of travel to such facilities shall not exceed a distance of 500 feet (152 400 mm).

Exception: The location and maximum travel distances to required employee facilities in factory and industrial occupancies are permitted to exceed that required by this section, provided that the location and maximum travel distance are *approved*.

2902.4.3 Location of toilet facilities in covered mall buildings. In *covered mall buildings*, the required public and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities, and the path of travel to such facilities shall not exceed a distance of 300 feet (91 440 mm). In *covered mall buildings*, the required facilities shall be based on total square footage, and facilities shall be installed in each individual store or in a central toilet area located in accordance with this section. The maximum travel distance to the central toilet facilities in covered mall buildings shall be measured from the main entrance of any store or tenant space. In *covered mall buildings*, where employees' toilet facilities are not provided in the individual store, the maximum travel distance shall be measured from the employees' work area of the store or tenant space.

2902.4.4 Pay facilities. Where pay facilities are installed, such facilities shall be in excess of the required minimum facilities. Required facilities shall be free of charge.

2902.5 Separation from food service. Water closet rooms in connection with food establishments where food is prepared, stored or served shall have a nonabsorbent interior finish as specified in Sections 1210.1 and 1210.2, shall have hand-washing facilities therein or adjacent thereto, and shall be

separated from food preparation and storage rooms as specified in Section 1210.5.

2902.6 Dwelling units. Dwelling units shall be provided with a kitchen equipped with a kitchen sink. Dwelling units, congregate residences and lodging houses shall be provided with a bathroom equipped with facilities consisting of a water closet, lavatory and either a bathtub or shower. Each sink, lavatory and either a bathtub or shower shall be equipped with hot and cold running water necessary for its normal operation.

2902.7 Water closet space requirements. In all occupancies, the water closet stool shall be located in a clear floor space not less than 30 inches (762 mm) in width. The clear floor space in front of the water closet stool shall not be less than 24 inches (610 mm). See Chapter 11 for accessible water closets.

SECTION 2903 DRINKING FOUNTAINS

2903.1 General. Drinking fountains shall be provided where required by this section. Drinking fountains shall be accessible as required by Chapter 11.

Exception: Drinking fountains are not required when the occupant load is 30 or less.

2903.2 Where required. In Group A occupancies, at least one drinking fountain shall be provided at each floor level in an approved location.

Exception: A drinking fountain need not be provided in a drinking or dining establishment.

In Group E occupancies, there shall be at least one drinking fountain on each floor of elementary and secondary schools. Drinking fountains shall not be installed in toilet rooms.

SECTION 2904 ALTERATION OF EXISTING GROUP A OCCUPANCIES

2904.1 Definitions.

SUBSTANTIAL ALTERATION. Any alteration where the total cost of all alterations (including, but not limited to, electrical, mechanical, plumbing and structural changes) for a building or facility within any 12-month period amounts to 60 percent or more of the appraised value.

STRUCTURALLY IMPRACTICAL. An alteration that has little likelihood of being accomplished because existing structural conditions would require removing or altering a load-bearing member that is an essential part of the structural frame, or because site constraints prohibit modification or addition of elements, spaces or features which are in full and strict compliance with the minimum requirements for new construction.

2904.2 Requirements. Where substantial alterations are made to an existing Groups A, M and E occupancy with an occupant load in excess of 300, water closets, as specified in Table 29-A for new construction, shall be provided.

Exception: The building official may approve substantial alterations without the installation of additional water closets only where it is structurally infeasible to make such alterations; where existing site conditions, including the size of existing public water or sewer lines, prohibit such installations; or where zoning regulations prohibit adding floor area to the existing building. The number of water closets provided shall be the maximum number feasible but need not exceed the number required for new construction.

**TABLE 29-A
MINIMUM PLUMBING FIXTURES¹**

TYPE OF BUILDING OR OCCUPANCY ²	WATER CLOSETS ³ (fixtures per person)		LAVATORIES ⁴ (fixtures per person)		BATHTUB OR SHOWER (fixtures per person)
	MALE	FEMALE	MALE	FEMALE	
For the occupancies listed below, use 30 square feet (2.78 m²) per occupant for the minimum number of plumbing fixtures.					
Group A, and assembly uses Conference rooms, dining rooms, drinking establishments, exhibit rooms, gymnasiums, lounges, stages and similar uses, including restaurants classified as Group B occupancies amusement parks, entertainment and sports arenas, community halls, special event centers	1:1–25 2:26–75 3:76–125 4:126–200 5:201–300 6:301–400 Over 400, add one fixture for each additional 200 males or 150 females.	1:1–25 2:26–75 3:76–125 4:126–200 5:201–300 6:301–400	One for each water closet up to four; then one for each two additional water closets		
For the assembly occupancies listed below, use the number of fixed seating or, where no fixed seating is provided, use 15 square feet (1.39 m²) per occupant for the minimum number of plumbing fixtures.					
Assembly places Auditoriums, convention halls, dance floors, lodge rooms, stadiums and casinos	1:1–50 2:51–100 3:101–150 4:151–300 Over 300 males, add one fixture for each additional 200, and over 400 females add one for each 125.	3:1–50 4:51–100 6:101–200 8:201–400	1:1–200 2:201–400 3:401–750 Over 750, add one fixture for each additional 500 persons.	1:1–200 2:201–400 3:401–750	
For the assembly occupancies listed below, use the number of fixed seating or, where no fixed seating is provided, use 30 square feet (2.29 m²) per occupant for the minimum number of plumbing fixtures.					
Worship places Principal assembly area Worship places Educational and activity unit	one per 150 one per 125	one per 75 one per 75	one per two water closets one per two water closets		
For the occupancies listed below, use 200 square feet (18.58 m²) per occupant for the minimum number of plumbing fixtures.					
Group B Offices or public buildings	1:1–15 2:16–35 3:36–55 Over 55, add one for each 50 persons.	1:1–15 2:16–35 3:36–55	one per two water closets		
For the occupancies listed below, use 50 square feet (4.65 m²) per occupant for the minimum number of plumbing fixtures.					
Group E Schools—for staff use All schools Schools—for student use Day care Elementary Secondary	1:1–15 2:16–35 3:36–55 Over 55, add one fixture for each additional 40 persons. 1:1–20 2:21–50 Over 50, add one fixture for each additional 50 persons. one per 30 one per 40	1:1–15 2:16–35 3:36–55 1:1–20 2:21–50 one per 25 one per 30	one per 40 one per 40 one per 35 one per 40	one per 40 1:1–25 2:26–50 Over 50, add one fixture for each additional 50 persons. one per 35 one per 40	
For the occupancies listed below, use 50 square feet (4.65 m²) per occupant for the minimum number of plumbing fixtures.					
Education Facilities other than Group E Others (colleges, universities, adult centers, etc.)	one per 40	one per 30	one per 40	one per 40	

continued

**TABLE 29-A—continued
MINIMUM PLUMBING FIXTURES¹**

TYPE OF BUILDING OR OCCUPANCY ²	WATER CLOSETS ³ (fixtures per person)		LAVATORIES ⁴ (fixtures per person)		BATHTUB OR SHOWER (fixtures per person)
	MALE	FEMALE	MALE	FEMALE	
For the occupancies listed below, use 2,000 square feet (185.8 m²) per occupant for the minimum number of plumbing fixtures.					
Group F Workshop, foundries and similar establishments, and Group H occupancies	1:1–10 2:11–25 3:26–50 4:51–75 5:76–100 Over 100, add one fixture for each additional 300 persons.	1:1–10 2:11–25 3:26–50 4:51–75 5:76–100	One for each two water closets		One shower for each 15 persons exposed to excessive heat or to skin contamination with irritating materials
For the occupancies listed below, use the designated application and 200 square feet (18.58 m²) per occupant of the general use area for the minimum number of plumbing fixtures.					
Group I Hospital waiting rooms Hospital general use areas	one per room (usable by either sex) 1:1–15 2:16–35 3:36–55 Over 55, add one fixture for each additional 40 persons.	1:1–15 3:16–35 4:36–55	one per room one per each two water closets		
Hospitals Patient room Ward room	one per room one per eight patients		one per room one per 10 patients		one per room one per 20 patients
Jails and reformatories Cell Exercise room	one per cell one per exercise room		one per cell one per exercise room		
Other institutions (on each occupied floor)	one per 25	one per 25	one per 10	one per 10	one per eight
For the occupancies listed below, use 200 square feet (18.58 m²) per occupant for the minimum number of plumbing fixtures.					
Group M Retail or wholesale stores	1:1–50 2:51–100 3:101–400 Over 400, add one fixture for each additional 500 males and one for each 150 females.	1:1–50 2:51–100 3:101–200 4:201–300 5:301–400	one for each two water closets		
For Group R occupancies, dwelling units and hotel guest rooms, use the chart. For congregate residences, use 200 square feet (18.58 m²) for Group R, Division 1 occupancies and 300 square feet (27.87 m²) for Group R, Division 3 occupancies for the minimum plumbing fixtures.					
Group R Dwelling units Hotel guest rooms	one per dwelling unit one per guest room		one per dwelling unit one per guest room		one per dwelling unit one per guest room
Congregate residences	one per 10 Add one fixture for each additional 25 males and one for each additional 20 females.	one per 8 one per 12	one per 12 Over 12, add one fixture for each additional 20 males and one for each additional 15 females	one per 12 one per 12	one per eight For females, add one bathtub per 30. Over 150, add one per 20.
For the occupancies listed below, use 5,000 square feet (464.5 m²) per occupant for the minimum number of plumbing fixtures.					
Group S Warehouses	1:1–10 2:11–25 3:26–50 4:51–75 5:76–100 Over 100, add one for each 300 males and females.	1:1–10 2:11–25 3:26–50 4:51–75 5:76–100	one per 40 occupants of each sex		one shower for each 15 persons exposed to excessive heat or to skin contamination with poisonous, infectious or irritating materials

1. The figures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction thereof.
2. Any category not mentioned specifically or about which there are any questions shall be classified by the building official and included in the category which it most nearly resembles, based on the expected use of the plumbing facilities.
3. Where urinals are provided, one water closet less than the number specified may be provided for each urinal installed, except the number of water closets in such cases shall not be reduced to less than one half of the minimum specified.
4. Twenty-four inches (610 mm) of wash sink or 18 inches (457 mm) of a circular basin when provided with outlets for such space, shall be considered equivalent to one lavatory.