

## CHAPTER 29 PLUMBING SYSTEMS

### SECTION 2901 GENERAL

**2901.1 Scope.** The provisions of this chapter and the *Arizona State Plumbing Code* shall govern the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing equipment and systems. Plumbing systems and equipment shall be constructed, installed and maintained in accordance with the *Arizona State Plumbing Code*. Private sewage disposal systems shall conform to the *Arizona State Plumbing Code*.

### [P] SECTION 2902 MINIMUM PLUMBING FACILITIES

**2902.1 Minimum number of fixtures.** Plumbing fixtures shall be provided for the type of occupancy and in the minimum number shown in Table 2902.1 Types of occupancies not shown in Table 2902.1 shall be considered individually by the building official. The number of occupants shall be determined by this code. Occupancy classification shall be determined in accordance with Chapter 3.

**TABLE 2902.1  
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES<sup>a</sup>  
(See Sections 2902.2 and 2902.3)**

No.	CLASSIFICATION	USE GROUP	DESCRIPTION	WATER CLOSETS		LAVATORIES		BATHUBS OR SHOWERS	DRINKING FOUNTAINS	OTHER	
				MALE	FEMALE	MALE	FEMALE				
1	Assembly (see Sections 2902.2, 2902.5 and 2902.6)	A-1	Theaters usually with fixed seats 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	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	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	
		A-3	Places of worship and other religious services. Churches without assembly halls	1 per 150	1 per 75	1 per 200		—	1 per 1,000	1 service sink	
		A-4	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 1,500 and 1 per 60 for the remainder exceeding 1,500	1 per 200	1 per 150		—	1 per 1,000	1 service sink
		A-5	Stadiums, amusement parks, bleachers and grandstands for outdoor 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 1,500 and 1 per 60 for the remainder exceeding 1,500	1 per 200	1 per 150		—	1 per 1,000	1 service sink

(continued)

TABLE 2902.1—continued  
MINIMUM NUMBER OF REQUIRED PLUMBING FACILITIES<sup>a</sup>

No.	CLASSIFICATION	USE GROUP	DESCRIPTION	WATER CLOSETS		LAVATORIES		BATHUBS OR SHOWERS	DRINKING FOUNTAINS	OTHER
				MALE	FEMALE	MALE	FEMALE			
2	Business (see Sections 2902.2, 2902.4, 2902.4.1 and 2902.6)	B	Buildings for the transaction of business, 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 50 and 1 per 80 for the remainder exceeding 50		—	1 per 100	1 service sink
3	Educational	E	Educational facilities	1 per 50		1 per 50		—	1 per 100	1 service sink
4	Factory and industrial	F-1 and F-2	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100		1 per 100		See Section 411 of the <i>International Plumbing Code</i>	1 per 400	1 service sink
5	Institutional	I-1	Residential care	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		I-2	Hospitals, ambulatory nursing home patients <sup>b</sup>	1 per per room <sup>c</sup>		1 per per room <sup>c</sup>		1 per 15	1 per 100	1 service sink
			Employees, other than residential care <sup>b</sup>	1 per 25		1 per 35		—	1 per 100	—
			Visitors, other than residential care	1 per 75		1 per 100		—	1 per 500	—
		I-3	Prisons <sup>b</sup>	1 per cell		1 per cell		1 per 15	1 per 100	1 service sink
		I-3	Reformatories, detention centers and correctional centers <sup>b</sup>	1 per 15		1 per 15		1 per 15	1 per 100	1 service sink
		I-4	Adult day care and child care <sup>b</sup>	1 per 15		1 per 15		1 per 15 <sup>d</sup>	1 per 100	1 service sink
6	Mercantile (see Section 2902.2, 2902.5 and 2902.6)	M	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 per 500		1 per 750		—	1 per 1,000	1 service sink
7	Residential	R-1	Hotels, motels, boarding houses (transient)	1 per guestroom		1 per guestroom		1 per guestroom	—	1 service sink
		R-2	Dormitories, fraternities, sororities and boarding house (not transient)	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		R-2	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 <sup>e</sup>

(continued)

TABLE 2902.1—continued  
MINIMUM NUMBER OF REQUIRED PLUMBING FACILITIES<sup>a</sup>

No.	CLASSIFICATION	USE GROUP	DESCRIPTION	WATER CLOSETS		LAVATORIES		BATHUBS OR SHOWERS	DRINKING FOUNTAINS	OTHER
				MALE	FEMALE	MALE	FEMALE			
7	Residential	R-3	One- and two-family dwellings	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 <sup>c</sup>
		R-4	Residential care/assisted living facilities	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
8	Storage (see Sections 2902.2, 2902.4 and 2902.4.1)	S-1 S-2	Structures for the storage of goods, warehouses, storehouses and freight depots, low and moderate hazard	1 per 100		1 per 100		See Section 411 of the <i>International Plumbing Code</i>	1 per 1,000	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 this code.
- b. Toilet facilities for employees shall be separate from facilities for inmates or patients.
- c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient rooms shall be permitted where such room is provided with direct access from each patient room and with provisions for privacy.
- d. For day nurseries, a maximum of one bathtub shall be required.
- e. For attached one- and two-family dwellings, one automatic clothes washer connection shall be required per 20 dwelling units.

**2902.1.1 Unisex toilet and bath fixtures.** Fixtures located within unisex toilet bathing rooms complying with Section 404 of the *Arizona State Plumbing Code* are permitted to be included in determining the minimum required number of fixtures for assembly and mercantile occupancies.

**2902.2 Separate facilities.** Where plumbing fixtures are required, separate facilities shall be provided for each sex.

**Exceptions:**

1. Separate facilities shall not be required for private facilities.
2. Separate employee facilities shall not be required in occupancies in which 15 or fewer people are employed.
3. 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.
4. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 50 or less.

**2902.3 Number of occupants of each sex.** The required water closets, lavatories and showers or bathtubs shall be distributed equally between the sexes based on the percentage of each sex anticipated in the occupant load. The occupant load shall be composed of 50 percent of each sex,

unless statistical data approved by the building official indicate a different distribution of the sexes.

**2902.4 Location of employee toilet facilities in occupancies other than assembly or mercantile.** Access to toilet facilities in occupancies other than mercantile and assembly shall be from within the employees’ working area. Employee facilities shall be either separate facilities or combined employee and public facilities.

**Exception:** Facilities that are required for employees in storage structures or kiosks, and are located in adjacent structures under the same ownership, lease or control, shall be a maximum travel distance of 500 feet (152 m) from the employees’ working area.

**2902.4.1 Travel distance.** The required toilet facilities in occupancies other than assembly or mercantile shall be located not more than one story above or below the employees’ working area and the path or travel to such facilities shall not exceed a distance of 500 feet (152 m).

**Exception:** The location and maximum travel distances to required employee toilet facilities in factory and industrial occupancies are permitted to exceed that required in Section 2902.4.1, provided the location and maximum travel distance are approved by the building official.

**2902.5 Location of employee toilet facilities in mercantile and assembly occupancies.** Employees shall be provided with toilet facilities in building and tenant spaces utilized as restaurants, nightclubs, places of public assembly and mercantile occupancies. The employee facilities shall be either separate facilities or combined employee and public facilities. The required toilet facilities shall be located not more than one story above or below the employees' work area and the path of travel to such facilities, in other than covered malls, shall not exceed a distance of 500 feet (152 m). The path of travel to required facilities in covered malls shall not exceed a distance of 300 feet (91 m).

**Exception:** Employee toilet facilities shall not be required in tenant spaces where the travel distance from the main entrance of the tenant spaces to a central toilet area does not exceed 300 feet (91 m) and such central toilet facilities are located not more than one story above or below the tenant space.

**2902.6 Public facilities.** Customers, patrons and visitors shall be provided with public toilet facilities in structures and tenant spaces intended for public utilization. Public toilet facilities shall be located not more than one story above or below the space required to be provided with public toilet facilities and the path of travel to such facilities shall not exceed a distance of 500 feet (152 m).

**2902.6.1 Covered malls.** In covered mall buildings, the path of travel to required toilet facilities shall not exceed a distance of 300 feet (91 m). 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.

**2902.6.2 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.

**2902.6.3 Signage.** A legible sign designating the sex shall be provided in a readily visible location near the entrance to each toilet facility. Signs for accessible toilet facilities shall comply with ICC A117.1.

prepared by a professional engineer. All drawings and specifications shall be sufficiently comprehensive as to provide prescriptive installation criteria. Schedule 40 PVC piping may be specified for use in under-slab vacuum systems.

## SECTION 2903 MEDICAL GAS SYSTEMS

**2903.1 Medical gas systems.** Medical gas systems that are not included in Appendix F of the *Arizona State Plumbing Code* may be installed per the 2002 edition of NFPA 99C. ANSI/ASSE 6000 requirements will not be applicable. Upon completion of each medical gas installation, a sealed and signed report shall be submitted to the field inspector per Chapter 17.

**2903.1.1 Level 3 dental facilities.** Vacuum piping installed under an on-grade floor shall be installed in compliance with recommendations and drawings prepared by the dental equipment manufacturer or drawings and specifications