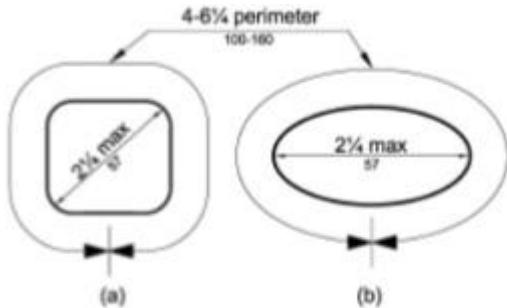


Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches (100 mm) minimum and 6 $\frac{1}{4}$  inches (160 mm) maximum, and a cross-section dimension of 2 $\frac{1}{4}$  inches (57 mm) maximum.



**FIGURE 505.7.2**

#### **HANDRAIL NON-CIRCULAR CROSS SECTION**

#### **505.8 Surfaces.**

Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements and shall have rounded edges.

#### **505.9 Fittings.**

Handrails shall not rotate within their fittings.

#### **505.10 Handrail Extensions.**

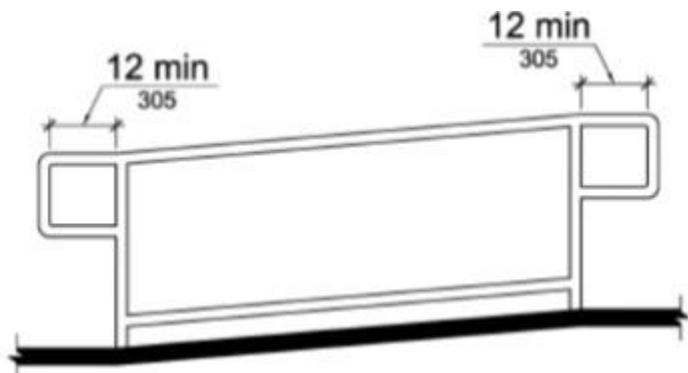
Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with 505.10.

#### **EXCEPTIONS:**

1. Extensions shall not be required for continuous handrails at the inside turn of switchback or dogleg stairs and ramps. .1
2. In assembly areas, extensions shall not be required for ramp handrails in aisles serving seating where the handrails are discontinuous to provide access to seating and to permit crossovers within aisles. .2
3. In alterations, full extensions of handrails shall not be required where such extensions would be hazardous due to plan configuration. .3

#### **505.10.1 Top and Bottom Extension at Ramps.**

Ramp handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run.



**FIGURE 505.10.1**

**TOP AND BOTTOM HANDRAIL EXTENSION AT RAMPS**

**505.10.2 Top Extension at Stairs.**

At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

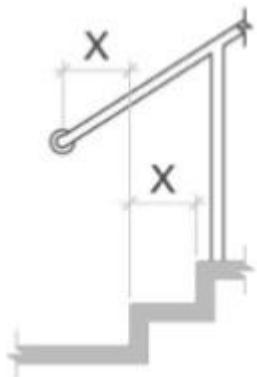


**FIGURE 505.10.2**

**TOP HANDRAIL EXTENSION AT STAIRS**

**505.10.3 Bottom Extension at Stairs.**

At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance at least equal to one tread depth beyond the last riser nosing. Extension shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.



Note: X = tread depth

**FIGURE 505.10.3****BOTTOM HANDRAIL EXTENSION AT STAIRS****CHAPTER 6: PLUMBING ELEMENTS AND FACILITIES****601 GENERAL****601.1 Scope.**

The provisions of Chapter 6 shall apply where required by Chapter 2 or where referenced by a requirement in this code.

**602 DRINKING FOUNTAINS****602.1 General.**

Drinking fountains shall comply with 307 and 602.

**602.2 Clear Floor Space.**

Units shall have a clear floor or ground space complying with 305 positioned for a forward approach and centered on the unit. Knee and toe clearance complying with 306 shall be provided.

**EXCEPTION:** A parallel approach complying with 305 shall be permitted at units for *children's* use where the spout is 30 inches (760 mm) maximum above the finish floor or ground and is 3 $\frac{1}{2}$  inches (90 mm) maximum from the front edge of the unit, including bumpers.

**602.3 Operable Parts.**

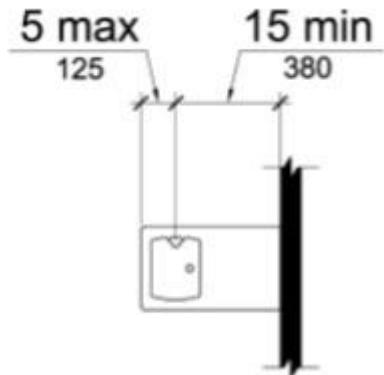
*Operable parts* shall comply with 309.

**602.4 Spout Height.**

Spout outlets shall be 36 inches (915 mm) maximum above the finish floor or ground.

**602.5 Spout Location.**

The spout shall be located 15 inches (380 mm) minimum from the vertical support and 5 inches (125 mm) maximum from the front edge of the unit, including bumpers.



**FIGURE 602.5**

#### **DRINKING FOUNTAIN SPOUT LOCATION**

##### **602.6 Water Flow.**

The spout shall provide a flow of water 4 inches (100 mm) high minimum and shall be located 5 inches (125 mm) maximum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches (75 mm) of the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches (75 mm) and 5 inches (125 mm) maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum.

**Advisory 602.6 Water Flow.** The purpose of requiring the drinking fountain spout to produce a flow of water 4 inches (100 mm) high minimum is so that a cup can be inserted under the flow of water to provide a drink of water for an individual who, because of a disability, would otherwise be incapable of using the drinking fountain.

##### **602.7 Drinking Fountains for Standing Persons.**

Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1090 mm) maximum above the finish floor or ground.

#### **603 TOILET AND BATHING ROOMS**

##### **603.1 General.**

Toilet and bathing rooms shall comply with 603.

##### **603.2 Clearances.**

Clearances shall comply with 603.2.

##### **603.2.1 Turning Space.**

Turning space complying with 304 shall be provided within the room.

##### **603.2.2 Overlap.**

Required clear floor spaces, clearance at fixtures, and turning space shall be permitted to overlap.

##### **603.2.3 Door Swing.**

Doors shall not swing into the clear floor space or clearance required for any fixture. Doors shall be permitted to swing into the required turning space.

#### **EXCEPTIONS:**

**1.**Doors to a toilet room or bathing room for a single occupant accessed only through a private office and not for *common use* or *public use* shall be permitted to swing into the clear floor space or clearance provided the swing of the door can be reversed to comply with 603.2.3. .1

**2.**Where the toilet room or bathing room is for individual use and a clear floor space complying with 305.3 is provided within the room beyond the arc of the door swing, doors shall be permitted to swing into the clear floor space or clearance required for any fixture. .2

**Advisory 603.2.3 Door Swing Exception 1.** At the time the door is installed, and if the door swing is reversed in the future, the door must meet all the requirements specified in 404. Additionally, the door swing cannot reduce the required width of an accessible route. Also, avoid violating other building or life safety codes when the door swing is reversed.

#### **603.3 Mirrors.**

Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches (890 mm) maximum above the finish floor or ground.

**Advisory 603.3 Mirrors.** A single full-length mirror can accommodate a greater number of people, including children. In order for mirrors to be usable by people who are ambulatory and people who use wheelchairs, the top edge of mirrors should be 74 inches (1880 mm) minimum from the floor or ground.

#### **603.4 Coat Hooks and Shelves.**

Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

### **604 WATER CLOSETS AND TOILET COMPARTMENTS**

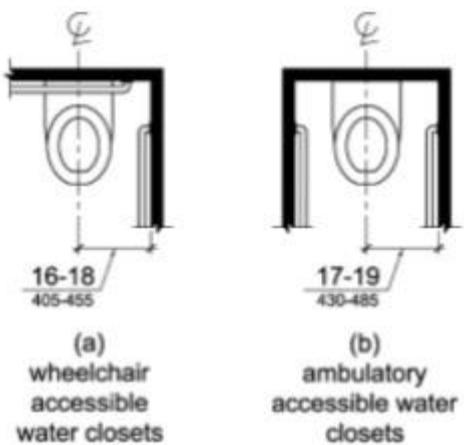
#### **604.1 General.**

Water closets and toilet compartments shall comply with 604.2 through 604.8.

**EXCEPTION:** Water closets and toilet compartments for *children's use* shall be permitted to comply with 604.9.

#### **604.2 Location.**

The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory *accessible* toilet compartment specified in 604.8.2. Water closets shall be arranged for a left-hand or right-hand approach.



**FIGURE 604.2**

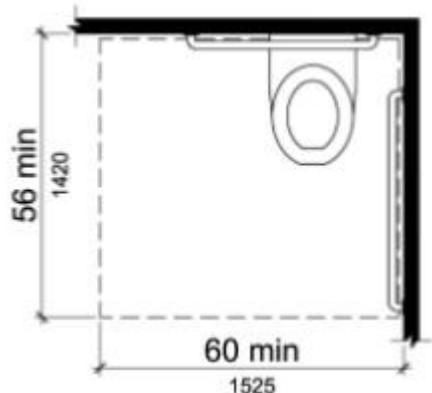
#### **WATER CLOSET LOCATION**

##### **604.3 Clearance.**

Clearances around water closets and in toilet compartments shall comply with 604.3.

##### **604.3.1 Size.**

Clearance around a water closet shall be 60 inches (1525 mm) minimum measured perpendicular from the side wall and 56 inches (1420 mm) minimum measured perpendicular from the rear wall.



**FIGURE 604.3.1**

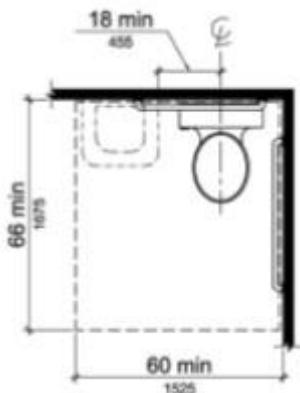
#### **SIZE OF CLEARANCE AT WATER CLOSETS**

##### **604.3.2 Overlap.**

The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, *accessible routes*, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

**EXCEPTION:** In *residential dwelling units*, a lavatory complying with 606 shall be permitted on the rear wall 18 inches (455 mm) minimum from the water closet centerline where the clearance at the water closet is 66 inches (1675 mm) minimum measured perpendicular from the rear wall.

**Advisory 604.3.2 Overlap.** When the door to the toilet room is placed directly in front of the water closet, the water closet cannot overlap the required maneuvering clearance for the door inside the room.



**FIGURE 604.3.2 (EXCEPTION)**

#### **OVERLAP OF WATER CLOSET CLEARANCE IN RESIDENTIAL DWELLING UNITS**

#### **604.4 Seats.**

The seat height of a water closet above the finish floor shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

#### **EXCEPTIONS:**

1. A water closet in a toilet room for a single occupant accessed only through a private office and not for *common use or public use* shall not be required to comply with 604.4. .1
2. In *residential dwelling units*, the height of water closets shall be permitted to be 15 inches (380 mm) minimum and 19 inches (485 mm) maximum above the finish floor measured to the top of the seat. .2

#### **604.5 Grab Bars.**

Grab bars for water closets shall comply with 609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall.

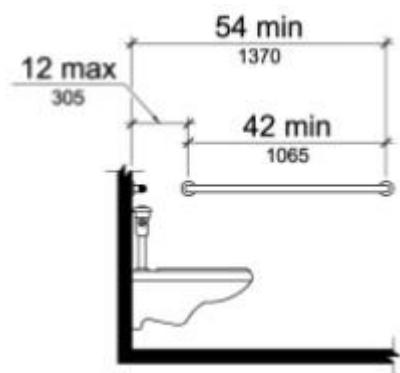
#### **EXCEPTIONS:**

1. Grab bars shall not be required to be installed in a toilet room for a single occupant accessed only through a private office and not for *common use or public use* provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 604.5. .1
2. In *residential dwelling units*, grab bars shall not be required to be installed in toilet or bathrooms provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 604.5. .2
3. In detention or correction *facilities*, grab bars shall not be required to be installed in housing or holding cells that are specially designed without protrusions for purposes of suicide prevention. .3

**Advisory 604.5 Grab Bars Exception 2.** Reinforcement must be sufficient to permit the installation of rear and side wall grab bars that fully meet all accessibility requirements including, but not limited to, required length, installation height, and structural strength.

#### **604.5.1 Side Wall.**

The side wall grab bar shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall.



**FIGURE 604.5.1**

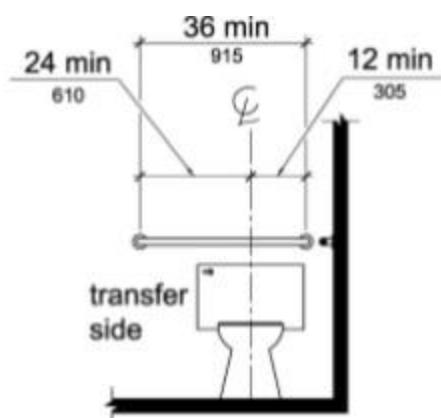
#### **SIDE WALL GRAB BAR AT WATER CLOSETS**

#### **604.5.2 Rear Wall.**

The rear wall grab bar shall be 36 inches (915 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

#### **EXCEPTIONS:**

1. The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered .1 on the water closet, where wall space does not permit a length of 36 inches (915 mm) minimum due to the location of a recessed fixture adjacent to the water closet.
2. Where an *administrative authority* requires flush controls for flush valves to be located .2 in a position that conflicts with the location of the rear grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side of the toilet area.



**FIGURE 604.5.2**

#### **REAR WALL GRAB BAR WATER CLOSETS**

#### **604.6 Flush Controls.**

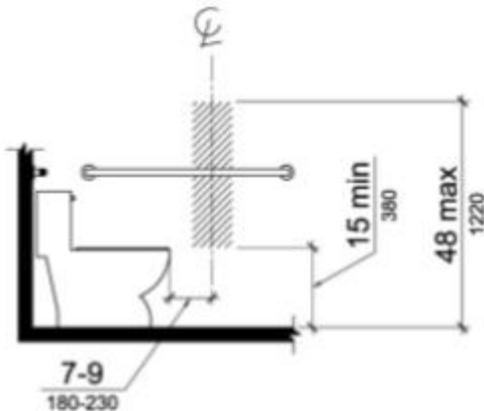
Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

**Advisory 604.6 Flush Controls.** If plumbing valves are located directly behind the toilet seat, flush valves and related plumbing can cause injury or imbalance when a person leans back against them. To prevent causing injury or imbalance, the plumbing can be located behind walls or to the side of the toilet; or if approved by the local authority having jurisdiction, provide a toilet seat lid.

#### **604.7 Dispensers.**

Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 15 inches (380 mm) minimum and 48 inches (1220 mm) maximum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

**Advisory 604.7 Dispensers.** If toilet paper dispensers are installed above the side wall grab bar, the outlet of the toilet paper dispenser must be 48 inches (1220 mm) maximum above the finish floor and the top of the gripping surface of the grab bar must be 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor.



**FIGURE 604.7**

#### **DISPENSER OUTLET LOCATION**

#### **604.8 Toilet Compartments.**

*Wheelchair accessible* toilet compartments shall meet the requirements of 604.8.1 and 604.8.3. Compartments containing more than one plumbing fixture shall comply with 603. Ambulatory accessible compartments shall comply with 604.8.2 and 604.8.3.

##### **604.8.1 Wheelchair Accessible Compartments.**

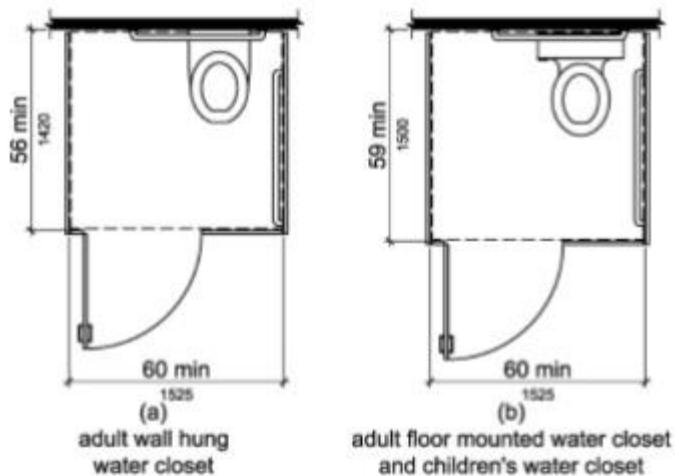
Wheelchair accessible compartments shall comply with 604.8.1.

###### **604.8.1.1 Size.**

*Wheelchair accessible* compartments shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 56 inches (1420 mm) deep minimum for wall hung water closets and 59 inches (1500 mm) deep minimum for floor mounted water closets measured perpendicular to the rear wall. *Wheelchair accessible* compartments for children's use shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 59 inches

(1500 mm) deep minimum for wall hung and floor mounted water closets measured perpendicular to the rear wall.

**Advisory 604.8.1.1 Size.** The minimum space required in toilet compartments is provided so that a person using a wheelchair can maneuver into position at the water closet. This space cannot be obstructed by baby changing tables or other fixtures or conveniences, except as specified at 604.3.2 (Overlap). If toilet compartments are to be used to house fixtures other than those associated with the water closet, they must be designed to exceed the minimum space requirements. Convenience fixtures such as baby changing tables must also be accessible to people with disabilities as well as to other users. Toilet compartments that are designed to meet, and not exceed, the minimum space requirements may not provide adequate space for maneuvering into position at a baby changing table.

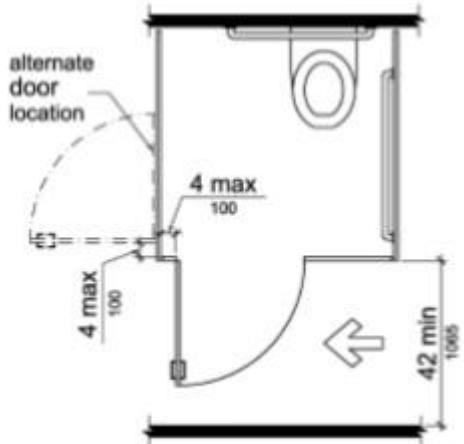


**FIGURE 604.8.1.1**

**SIZE OF WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT**

**604.8.1.2 Doors.**

Toilet compartment doors, including door hardware, shall comply with 404 except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. Doors shall be located in the front partition or in the side wall or partition farthest from the water closet. Where located in the front partition, the door opening shall be 4 inches (100 mm) maximum from the side wall or partition farthest from the water closet. Where located in the side wall or partition, the door opening shall be 4 inches (100 mm) maximum from the front partition. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.



**FIGURE 604.8.1.2**

#### **WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT DOORS**

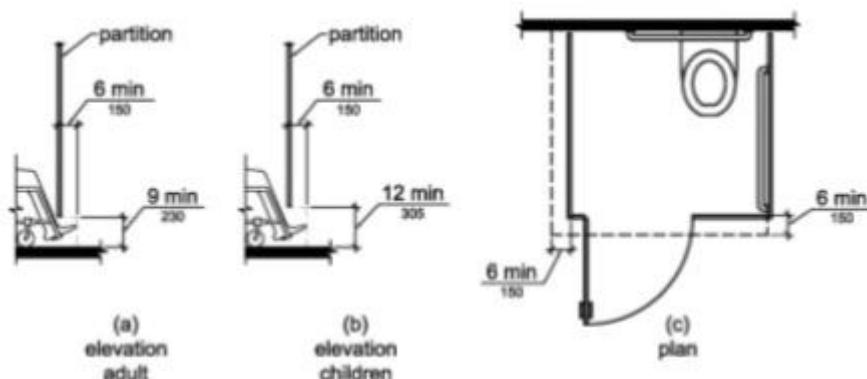
##### **604.8.1.3 Approach.**

Compartments shall be arranged for left-hand or right-hand approach to the water closet.

##### **604.8.1.4 Toe Clearance.**

The front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the finish floor and 6 inches (150 mm) deep minimum beyond the compartment-side face of the partition, exclusive of partition support members. Compartments for *children's* use shall provide a toe clearance of 12 inches (305 mm) minimum above the finish floor.

**EXCEPTION:** Toe clearance at the front partition is not required in a compartment greater than 62 inches (1575 mm) deep with a wall-hung water closet or 65 inches (1650 mm) deep with a floor-mounted water closet. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) wide. Toe clearance at the front partition is not required in a compartment for *children's* use that is greater than 65 inches (1650 mm) deep.



**FIGURE 604.8.1.4**

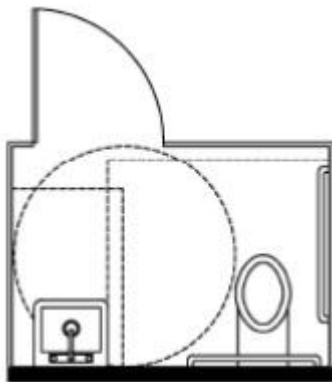
#### **WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT TOE CLEARANCE**

##### **604.8.1.5 Grab Bars.**

Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided and shall be located on the wall closest to the water closet. In addition, a rear-wall grab bar complying with 604.5.2 shall be provided.

#### **604.8.1.6 Lavatory.**

In new construction, the *wheelchair accessible* toilet compartment shall contain an *accessible* lavatory within it, which must be at least 19 inches wide by 17 inches deep, nominal size, and wall-mounted. The lavatory shall be mounted so as not to overlap the clear floor space areas required by section 604 for the *wheelchair accessible* toilet compartment and shall comply with section 606. Such lavatories shall be counted as part of the required fixture count for the *building*. See also section 213.3.4.



**FIGURE 604.8.1.6**

#### **WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT IN NEW CONSTRUCTION**

**Note:** The drawings are not the complete code requirements, do not depict all possible options and the code text must be reviewed for additional requirements

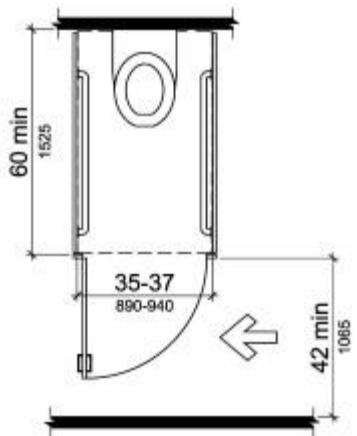
#### **604.8.1.7 Water closet.**

In new construction, the *accessible* water closet within the *wheelchair accessible* compartment shall be located in the corner, diagonal to the door.

**Advisory 604.8.1.6 Lavatory and 604.8.1.7 Water Closet.** Florida law, section 553.504(5), F.S., stipulates that "...required bathing rooms and toilet rooms in new construction shall be designed and constructed..." with an accessible lavatory in the wheelchair accessible compartment and the water closet located in a corner diagonal to the door. The ADA Standards for Accessible Design and therefore this code require wheelchair accessible compartments in new construction and in alterations of existing buildings to have self closing doors. While the Florida lavatory requirement and water closet placement apply only to new construction, they are desirable for all wheelchair accessible compartments and should be considered where feasible.

#### **604.8.2 Ambulatory Accessible Compartments.**

Ambulatory *accessible* compartments shall comply with 604.8.2.



**FIGURE 604.8.2**

#### **AMBULATORY ACCESSIBLE TOILET COMPARTMENT**

##### **604.8.2.1 Size.**

Ambulatory accessible compartments shall have a depth of 60 inches (1525 mm) minimum and a width of 35 inches (890 mm) minimum and 37 inches (940 mm) maximum.

##### **604.8.2.2 Doors.**

Toilet compartment doors, including door hardware, shall comply with 404, except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

##### **604.8.2.3 Grab Bars.**

Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided on both sides of the compartment.

##### **604.8.3 Coat Hooks and Shelves.**

Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

#### **604.9 Water Closets and Toilet Compartments for Children's Use.**

Water closets and toilet compartments for children's use shall comply with 604.9.

**Advisory 604.9 Water Closets and Toilet Compartments for Children's Use.** The requirements in 604.9 are to be followed where the exception for children's water closets in 604.1 is used. The following table provides additional guidance in applying the specifications for water closets for children according to the age group served and reflects the differences in the size, stature, and reach ranges of children ages 3 through 12. The specifications chosen should correspond to the age of the primary user group. The specifications of one age group should be applied consistently in the installation of a water closet and related elements.

**ADVISORY SPECIFICATIONS FOR WATER CLOSETS SERVING CHILDREN AGES 3 THROUGH 12**

	<b>Ages 3 and 4</b>	<b>Ages 5 through 8</b>
Water ClosetCenterline	12 inches(305 mm)	12 to 15 inches(305 to 380 mm)
Toilet Seat Height	11 to 12 inches(280 to 305 mm)	12 to 15 inches(305 to 380 mm)
Grab Bar Height	18 to 20 inches(455 to 510 mm)	20 to 25 inches(510 to 635 mm)
Dispenser Height	14 inches(355 mm)	14 to 17 inches(355 to 430 mm)

#### **604.9.1 Location.**

The water closet shall be located with a wall or partition to the rear and to one side. The centerline of the water closet shall be 12 inches (305 mm) minimum and 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Compartments shall be arranged for left-hand or right-hand approach to the water closet.

#### **604.9.2 Clearance.**

Clearance around a water closet shall comply with 604.3.

#### **604.9.3 Height.**

The height of water closets shall be 11 inches (280 mm) minimum and 17 inches (430 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

#### **604.9.4 Grab Bars.**

Grab bars for water closets shall comply with 604.5.

#### **604.9.5 Flush Controls.**

Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.2 and 309.4 and shall be installed 36 inches (915 mm) maximum above the finish floor. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

#### **604.9.6 Dispensers.**

Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 14 inches (355 mm) minimum and 19 inches (485 mm) maximum above the finish floor. There shall be a clearance of 1½ inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

#### **604.9.7 Toilet Compartments.**

Toilet compartments shall comply with 604.8.

### **605 URINALS**

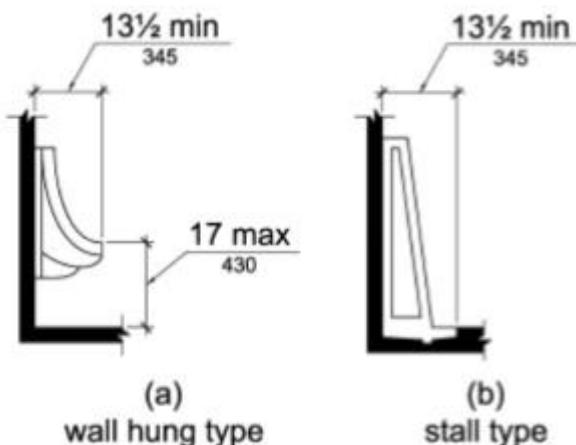
#### **605.1 General.**

Urinals shall comply with 605.

**Advisory 605.1 General.** Stall-type urinals provide greater accessibility for a broader range of persons, including people of short stature.

#### **605.2 Height and Depth.**

Urinals shall be the stall-type or the wall-hung type with the rim 17 inches (430 mm) maximum above the finish floor or ground. Urinals shall be  $13\frac{1}{2}$  inches (345 mm) deep minimum measured from the outer face of the urinal rim to the back of the fixture.



**FIGURE 605.2**

#### **HEIGHT AND DEPTH OF URINALS**

#### **605.3 Clear Floor Space.**

A clear floor or ground space complying with 305 positioned for forward approach shall be provided.

#### **605.4 Flush Controls.**

Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.

### **606 LAVATORIES AND SINKS**

#### **606.1 General.**

Lavatories and sinks shall comply with 606.

**Advisory 606.1 General.** If soap and towel dispensers are provided, they must be located within the reach ranges specified in 308. Locate soap and towel dispensers so that they are conveniently usable by a person at the accessible lavatory.

#### **606.2 Clear Floor Space.**

A clear floor space complying with 305, positioned for a forward approach, and knee and toe clearance complying with 306 shall be provided.

#### **EXCEPTIONS:**

**1.** A parallel approach complying with 305 shall be permitted to a kitchen sink, in .1 a space where a cook top or conventional range is not provided, and to wet bars.

**2.** A lavatory in a toilet room or bathing facility for a single occupant accessed only .2 through a private office and not for common use or public use shall not be required to provide knee and toe clearance complying with 306.

**3.** In *residential dwelling units*, cabinetry shall be permitted under lavatories and kitchen sinks provided that all of the following conditions are met:

a. the cabinetry can be removed without removal or replacement of the fixture; .1

b. the finish floor extends under the cabinetry; and .2

c. the walls behind and surrounding the cabinetry are finished. .3

**4.** A knee clearance of 24 inches (610 mm) minimum above the finish floor or ground .4 shall be permitted at lavatories and sinks used primarily by children 6 through 12 years where the rim or counter surface is 31 inches (785 mm) maximum above the finish floor or ground.

**5.** A parallel approach complying with 305 shall be permitted to lavatories and sinks used .5 primarily by children 5 years and younger.

**6.** The dip of the overflow shall not be considered in determining knee and toe .6 clearances.

**7.** No more than one bowl of a multi-bowl sink shall be required to provide knee and toe .7 clearance complying with 306.

#### **606.3 Height.**

Lavatories and sinks shall be installed with the front of the higher of the rim or counter surface 34 inches (865 mm) maximum above the finish floor or ground.

#### **EXCEPTIONS:**

**1.** A lavatory in a toilet or bathing *facility* for a single occupant accessed only through a .1 private office and not for *common use* or *public use* shall not be required to comply with 606.3.

**2.** In *residential dwelling unit* kitchens, sinks that are adjustable to variable heights, 29 .2 inches (735 mm) minimum and 36 inches (915 mm) maximum, shall be permitted where rough-in plumbing permits connections of supply and drain pipes for sinks mounted at the height of 29 inches (735 mm).

#### **606.4 Faucets.**

Controls for faucets shall comply with 309. Hand-operated metering faucets shall remain open for 10 seconds minimum.

#### **606.5 Exposed Pipes and Surfaces.**

Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

### **607 BATHTUBS**

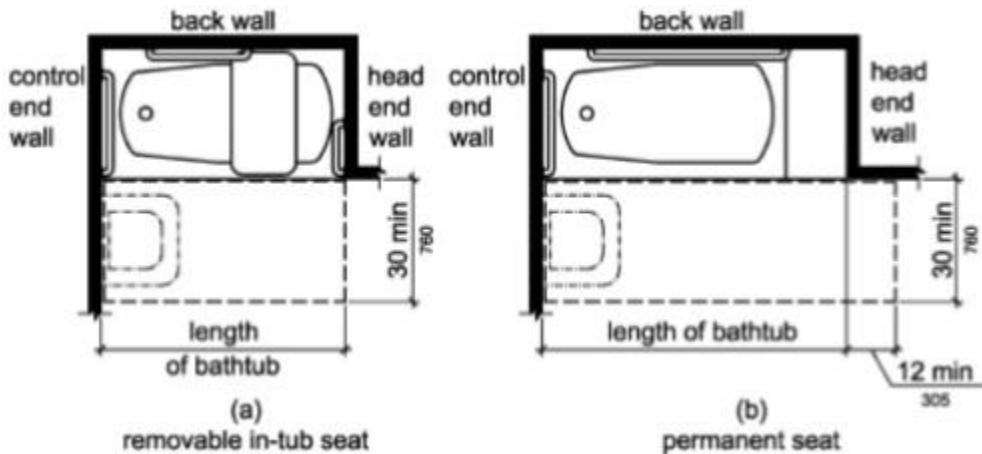
#### **607.1 General.**

Bathtubs shall comply with 607.

#### **607.2 Clearance.**

Clearance in front of bathtubs shall extend the length of the bathtub and shall be 30 inches (760 mm) wide minimum. A lavatory complying with 606 shall be permitted at the control end of the

clearance. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend 12 inches (305 mm) minimum beyond the wall at the head end of the bathtub.



**FIGURE 607.2**

#### **CLEARANCE FOR BATHTUBS**

##### **607.3 Seat.**

A permanent seat at the head end of the bathtub or a removable in-tub seat shall be provided. Seats shall comply with 610.

##### **607.4 Grab Bars.**

Grab bars for bathtubs shall comply with 609 and shall be provided in accordance with 607.4.1 or 607.4.2.

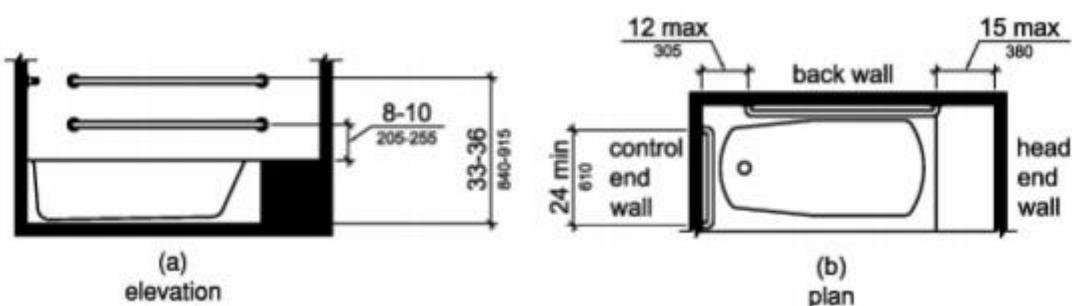
##### **EXCEPTIONS:**

1. Grab bars shall not be required to be installed in a bathtub located in a .1 bathing facility for a single occupant accessed only through a private office and not for common use or public use provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 607.4.

2. In residential dwelling units, grab bars shall not be required to be installed in bathtubs .2 located in bathing facilities provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 607.4.

##### **607.4.1 Bathtubs With Permanent Seats.**

For bathtubs with permanent seats, grab bars shall be provided in accordance with 607.4.1.



**FIGURE 607.4.1**

## **GRAB BARS FOR BATHTUBS WITH PERMANENT SEATS**

### **607.4.1.1 Back Wall.**

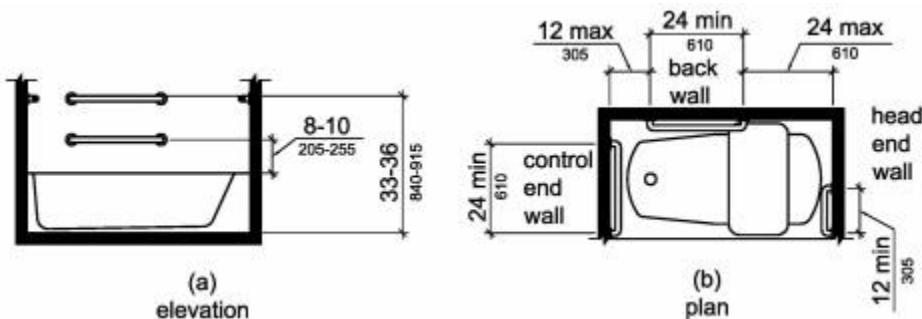
Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and the other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be installed 15 inches (380 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

### **607.4.1.2 Control End Wall.**

A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

### **607.4.2 Bathtubs Without Permanent Seats.**

For bathtubs without permanent seats, grab bars shall comply with 607.4.2.



**FIGURE 607.4.2**

## **GRAB BARS FOR BATHTUBS WITH REMOVABLE IN-TUB SEATS**

### **607.4.2.1 Back Wall.**

Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and the other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be 24 inches (610 mm) long minimum and shall be installed 24 inches (610 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

### **607.4.2.2 Control End Wall.**

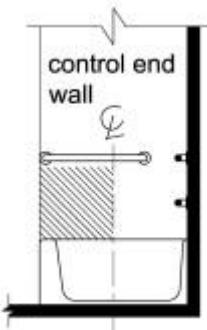
A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

### **607.4.2.3 Head End Wall.**

A grab bar 12 inches (305 mm) long minimum shall be installed on the head end wall at the front edge of the bathtub.

## **607.5 Controls.**

Controls, other than drain stoppers, shall be located on an end wall. Controls shall be between the bathtub rim and grab bar, and between the open side of the bathtub and the centerline of the width of the bathtub. Controls shall comply with 309.4.



**FIGURE 607.5**

#### **BATHTUB CONTROL LOCATION**

##### **607.6 Shower Spray Unit and Water.**

A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Bathtub shower spray units shall deliver water that is 120°F (49°C) maximum.

**Advisory 607.6 Shower Spray Unit and Water.** Ensure that hand-held shower spray units are capable of delivering water pressure substantially equivalent to fixed shower heads.

##### **607.7 Bathtub Enclosures.**

Enclosures for bathtubs shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto bathtub seats or into bathtubs. Enclosures on bathtubs shall not have tracks installed on the rim of the open face of the bathtub.

#### **608 SHOWER COMPARTMENTS**

##### **608.1 General.**

Shower compartments shall comply with 608.

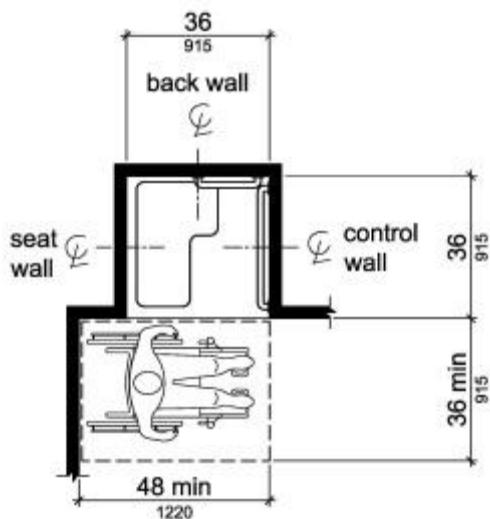
**Advisory 608.1 General.** Shower stalls that are 60 inches (1525 mm) wide and have no curb may increase the usability of a bathroom because the shower area provides additional maneuvering space.

##### **608.2 Size and Clearances for Shower Compartments.**

Shower compartments shall have sizes and clearances complying with 608.2.

###### **608.2.1 Transfer Type Shower Compartments.**

Transfer type shower compartments shall be 36 inches (915 mm) by 36 inches (915 mm) clear inside dimensions measured at the center points of opposing sides and shall have a 36 inch (915 mm) wide minimum entry on the face of the shower compartment. Clearance of 36 inches (915 mm) wide minimum by 48 inches (1220 mm) long minimum measured from the control wall shall be provided.

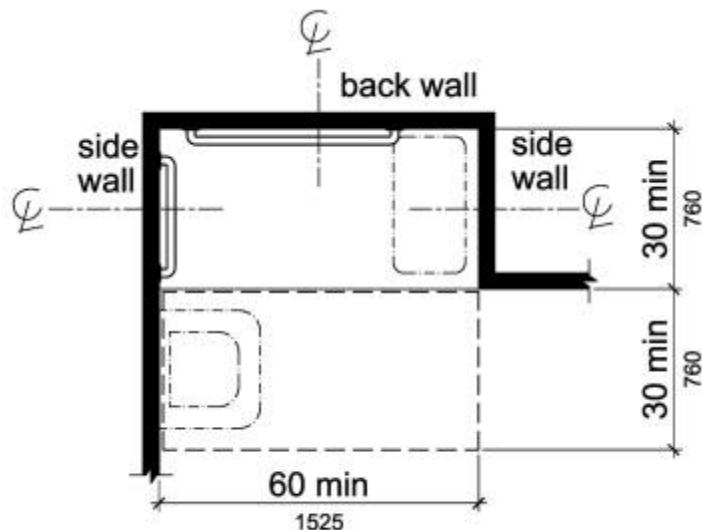


**FIGURE 608.2.1**

#### TRANSFER TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE

##### 608.2.2 Standard Roll-In Type Shower Compartments.

Standard roll-in type shower compartments shall be 30 inches (760 mm) wide minimum by 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides and shall have a 60 inches (1525 mm) wide minimum entry on the face of the shower compartment.



**FIGURE 608.2.2**

#### STANDARD ROLL-IN TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE

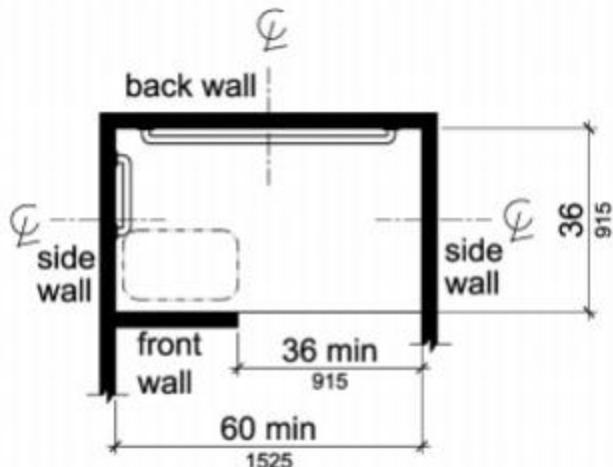
##### 608.2.2.1 Clearance.

A 30 inch (760 mm) wide minimum by 60 inch (1525 mm) long minimum clearance shall be provided adjacent to the open face of the shower compartment.

**EXCEPTION:** A lavatory complying with 606 shall be permitted on one 30 inch (760 mm) wide minimum side of the clearance provided that it is not on the side of the clearance adjacent to the controls or, where provided, not on the side of the clearance adjacent to the shower seat.

#### **608.2.3 Alternate Roll-In Type Shower Compartments.**

Alternate roll-in type shower compartments shall be 36 inches (915 mm) wide and 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides. A 36 inch (915 mm) wide minimum entry shall be provided at one end of the long side of the compartment.



Note: inside finished dimensions measured at the center points of opposing sides

**FIGURE 608.2.3**

#### **ALTERNATE ROLL-IN TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE**

#### **608.3 Grab Bars.**

Grab bars shall comply with 609 and shall be provided in accordance with 608.3. Where multiple grab bars are used, required horizontal grab bars shall be installed at the same height above the finish floor.

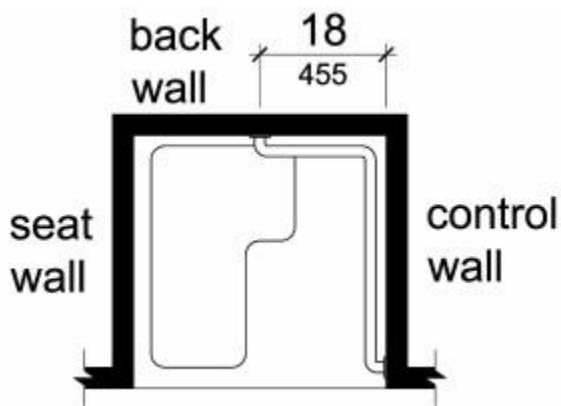
#### **EXCEPTIONS:**

**1.** Grab bars shall not be required to be installed in a shower located in a .1 bathing facility for a single occupant accessed only through a private office, and not for common use or public use provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 608.3.

**2.** In residential dwelling units, grab bars shall not be required to be installed in showers .2 located in bathing facilities provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 608.3.

#### **608.3.1 Transfer Type Shower Compartments.**

In transfer type compartments, grab bars shall be provided across the control wall and back wall to a point 18 inches (455 mm) from the control wall.

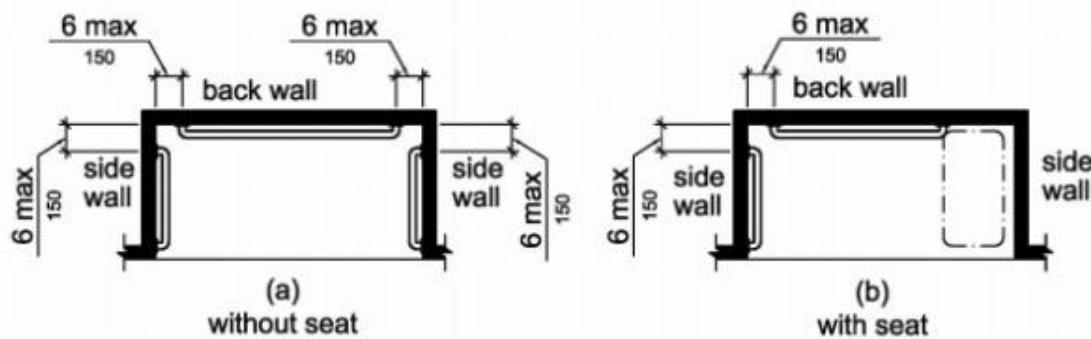


**FIGURE 608.3.1**

#### **GRAB BARS FOR TRANSFER TYPE SHOWERS**

##### **608.3.2 Standard Roll-In Type Shower Compartments.**

Where a seat is provided in standard roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall opposite the seat. Grab bars shall not be provided above the seat. Where a seat is not provided in standard roll-in type shower compartments, grab bars shall be provided on three walls. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

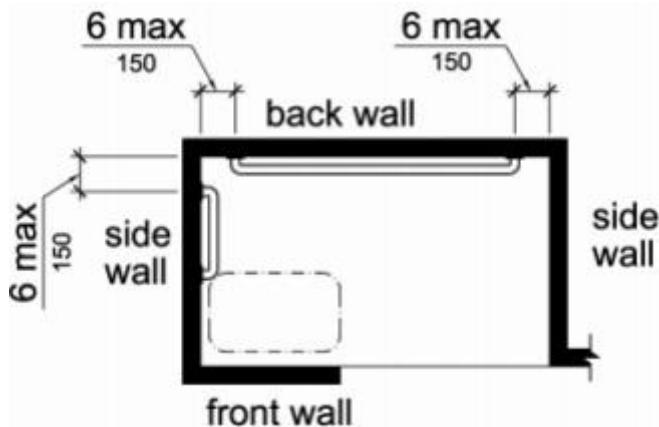


**FIGURE 608.3.2**

#### **GRAB BARS FOR STANDARD ROLL-IN TYPE SHOWERS**

##### **608.3.3 Alternate Roll-In Type Shower Compartments.**

In alternate roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall farthest from the compartment entry. Grab bars shall not be provided above the seat. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.



**FIGURE 608.3.3**

#### **GRAB BARS FOR ALTERNATE ROLL-IN TYPE SHOWERS**

##### **608.4 Seats.**

A folding or non-folding seat shall be provided in transfer type shower compartments. A folding seat shall be provided in roll-in type showers required in *transient lodging* guest rooms with mobility features complying with 806.2. Seats shall comply with 610.

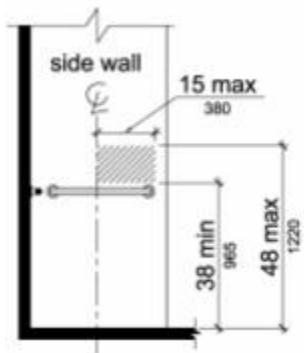
**EXCEPTION:** In *residential dwelling units*, seats shall not be required in transfer type shower compartments provided that reinforcement has been installed in walls so as to permit the installation of seats complying with 608.4.

##### **608.5 Controls.**

Controls, faucets, and shower spray units shall comply with 309.4.

###### **608.5.1 Transfer Type Shower Compartments.**

In transfer type shower compartments, the controls, faucets, and shower spray unit shall be installed on the side wall opposite the seat 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor and shall be located on the control wall 15 inches (380 mm) maximum from the centerline of the seat toward the shower opening.



**FIGURE 608.5.1**

###### **TRANSFER TYPE SHOWER COMPARTMENT CONTROL LOCATION**

###### **608.5.2 Standard Roll-In Type Shower Compartments.**

In standard roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor.

Where a seat is provided, the controls, faucets, and shower spray unit shall be installed on the back wall adjacent to the seat wall and shall be located 27 inches (685 mm) maximum from the seat wall.

**Advisory 608.5.2 Standard Roll-In Type Shower Compartments.** In standard roll-in type showers without seats, the shower head and operable parts can be located on any of the three walls of the shower without adversely affecting accessibility.

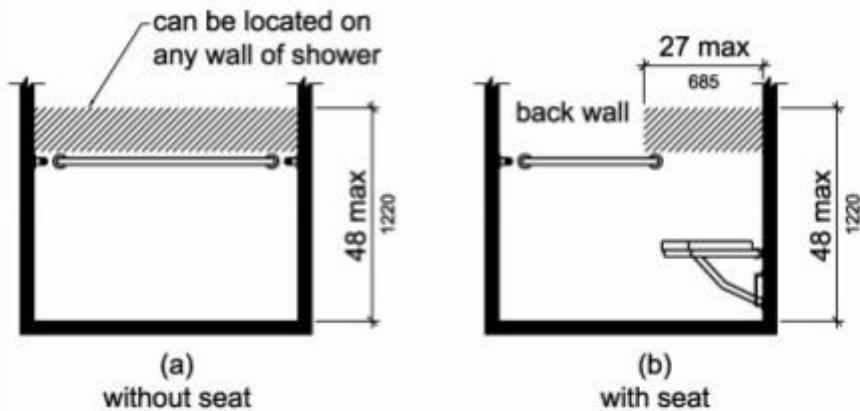
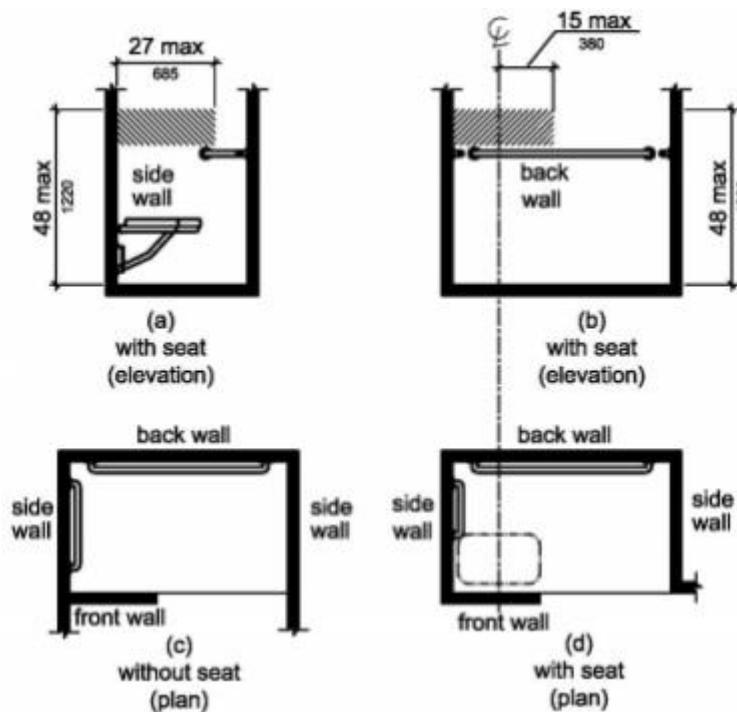


FIGURE 608.5.2

#### STANDARD ROLL-IN TYPE SHOWER COMPARTMENT CONTROL LOCATION

##### 608.5.3 Alternate Roll-In Type Shower Compartments.

In alternate roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be located on the side wall adjacent to the seat 27 inches (685 mm) maximum from the side wall behind the seat or shall be located on the back wall opposite the seat 15 inches (380 mm) maximum, left or right, of the centerline of the seat. Where a seat is not provided, the controls, faucets, and shower spray unit shall be installed on the side wall farthest from the compartment entry.



**FIGURE 608.5.3****ALTERNATE ROLL-IN TYPE SHOWER COMPARTMENT CONTROL LOCATION****608.6 Shower Spray Unit and Water.**

A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Shower spray units shall deliver water that is 120°F (49°C) maximum.

**EXCEPTION:** A fixed shower head located at 48 inches (1220 mm) maximum above the shower finish floor shall be permitted instead of a hand-held spray unit in *facilities* that are not medical care *facilities*, long-term care *facilities*, *transient lodging* guest rooms, or *residential dwelling units*.

**Advisory 608.6 Shower Spray Unit and Water.** Ensure that hand-held shower spray units are capable of delivering water pressure substantially equivalent to fixed shower heads.

**608.7 Thresholds.**

Thresholds in roll-in type shower compartments shall be  $\frac{1}{2}$  inch (13 mm) high maximum in accordance with 303. In transfer type shower compartments, thresholds  $\frac{1}{2}$  inch (13 mm) high maximum shall be beveled, rounded, or vertical.

**EXCEPTION:** A threshold 2 inches (51 mm) high maximum shall be permitted in transfer type shower compartments in existing *facilities* where provision of a  $\frac{1}{2}$  inch (13 mm) high threshold would disturb the structural reinforcement of the floor slab.

**608.8 Shower Enclosures.**

Enclosures for shower compartments shall not obstruct controls, faucets, and shower spray units or obstruct transfer from *wheelchairs* onto shower seats.

**609 GRAB BARS****609.1 General.**

Grab bars in toilet *facilities* and bathing *facilities* shall comply with 609.

**609.2 Cross Section.**

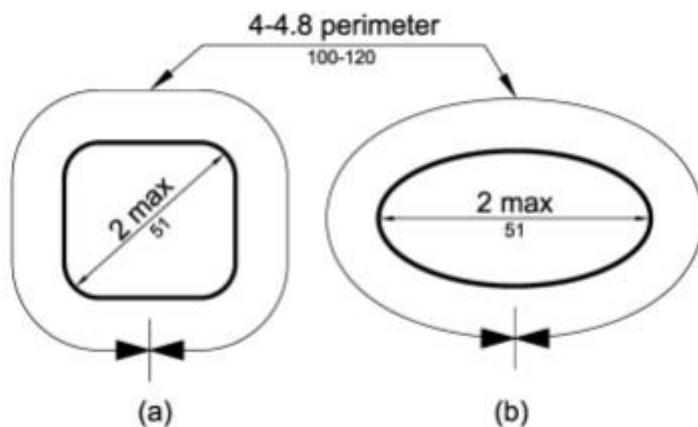
Grab bars shall have a cross section complying with 609.2.1 or 609.2.2.

**609.2.1 Circular Cross Section.**

Grab bars with circular cross sections shall have an outside diameter of  $1\frac{1}{4}$  inches (32 mm) minimum and 2 inches (51 mm) maximum.

**609.2.2 Non-Circular Cross Section.**

Grab bars with non-circular cross sections shall have a cross-section dimension of 2 inches (51 mm) maximum and a perimeter dimension of 4 inches (100 mm) minimum and 4.8 inches (120 mm) maximum.



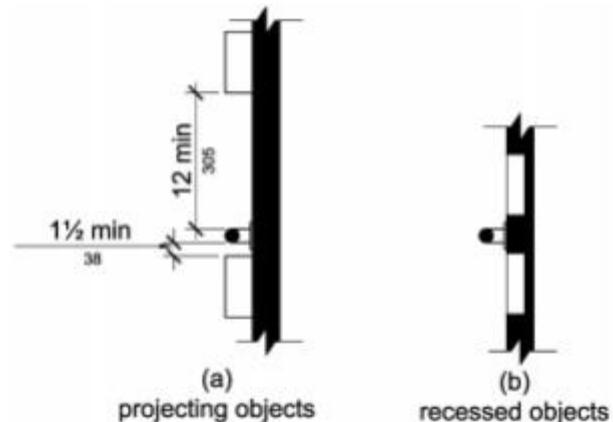
**FIGURE 609.2.2**

#### **GRAB BAR NON-CIRCULAR CROSS SECTION**

##### **609.3 Spacing.**

The space between the wall and the grab bar shall be  $1\frac{1}{2}$  inches (38 mm). The space between the grab bar and projecting objects below and at the ends shall be  $1\frac{1}{2}$  inches (38 mm) minimum. The space between the grab bar and projecting objects above shall be 12 inches (305 mm) minimum.

**EXCEPTION:** The space between the grab bars and shower controls, shower fittings, and other grab bars above shall be permitted to be  $1\frac{1}{2}$  inches (38 mm) minimum.



**FIGURE 609.3**

#### **SPACING OF GRAB BARS**

##### **609.4 Position of Grab Bars.**

Grab bars shall be installed in a horizontal position, 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor measured to the top of the gripping surface, except that at water closets for children's use complying with 604.9, grab bars shall be installed in a horizontal position 18 inches (455 mm) minimum and 27 inches (685 mm) maximum above the finish floor measured to the top of the gripping surface. The height of the lower grab bar on the back wall of a bathtub shall comply with 607.4.1.1 or 607.4.2.1.

##### **609.5 Surface Hazards.**

Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements and shall have rounded edges.

## **609.6 Fittings.**

Grab bars shall not rotate within their fittings.

## **609.7 Installation.**

Grab bars shall be installed in any manner that provides a gripping surface at the specified locations and that does not obstruct the required clear floor space.

## **609.8 Structural Strength.**

Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the grab bar, fastener, mounting device, or supporting structure.

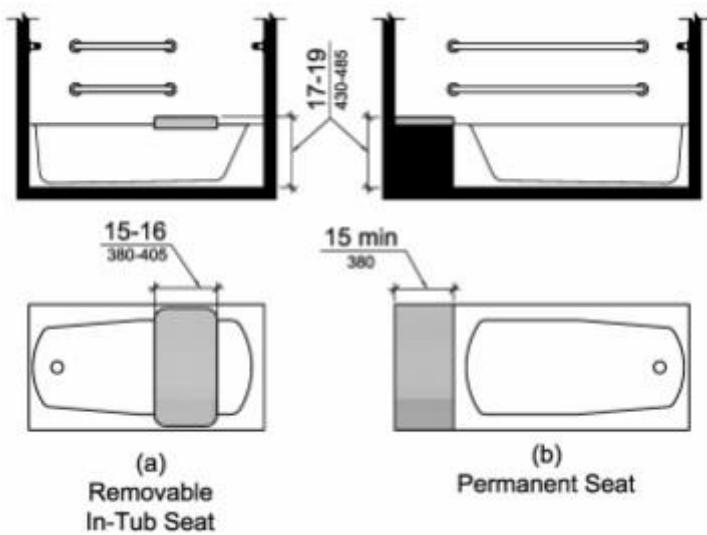
## **610 SEATS**

### **610.1 General.**

Seats in bathtubs and shower compartments shall comply with 610.

### **610.2 Bathtub Seats.**

The top of bathtub seats shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. The depth of a removable in-tub seat shall be 15 inches (380 mm) minimum and 16 inches (405 mm) maximum. The seat shall be capable of secure placement. Permanent seats at the head end of the bathtub shall be 15 inches (380 mm) deep minimum and shall extend from the back wall to or beyond the outer edge of the bathtub.



**FIGURE 610.2**

## **BATHTUB SEATS**

### **610.3 Shower Compartment Seats.**

Where a seat is provided in a standard roll-in shower compartment, it shall be a folding type, shall be installed on the side wall adjacent to the controls, and shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. Where a seat is provided in an alternate roll-in type shower compartment, it shall be a folding type, shall be installed on the front wall opposite the back wall, and shall extend from the adjacent side wall to a point within 3 inches (75 mm) of the compartment entry. In transfer-type showers, the seat shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. The top of the seat

shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. Seats shall comply with 610.3.1 or 610.3.2.

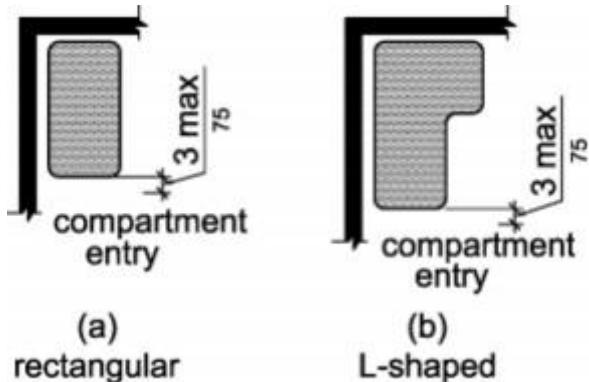


FIGURE 610.3

#### EXTENT OF SEAT

##### 610.3.1 Rectangular Seats.

The rear edge of a rectangular seat shall be  $2\frac{1}{2}$  inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The side edge of the seat shall be  $1\frac{1}{2}$  inches (38 mm) maximum from the adjacent wall.

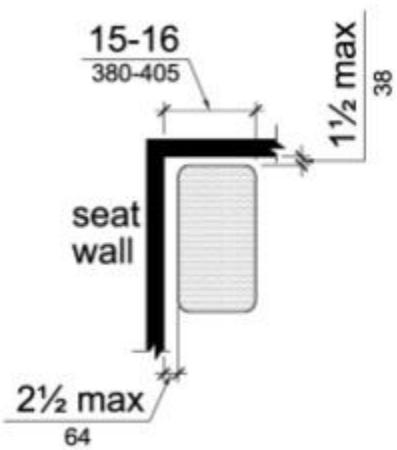
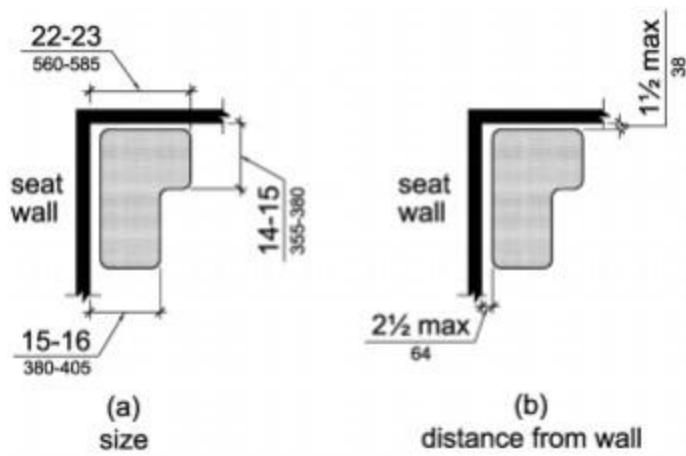


FIGURE 610.3.1

#### RECTANGULAR SHOWER SEAT

##### 610.3.2 L-Shaped Seats.

The rear edge of an L-shaped seat shall be  $2\frac{1}{2}$  inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The rear edge of the "L" portion of the seat shall be  $1\frac{1}{2}$  inches (38 mm) maximum from the wall and the front edge shall be 14 inches (355 mm) minimum and 15 inches (380 mm) maximum from the wall. The end of the "L" shall be 22 inches (560 mm) minimum and 23 inches maximum (585 mm) from the main seat wall.



**FIGURE 610.3.2**

#### L-SHAPED SHOWER SEAT

##### **610.4 Structural Strength.**

Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the seat, fastener, mounting device, or supporting structure.

#### **611 WASHING MACHINES AND CLOTHES DRYERS**

##### **611.1 General.**

Washing machines and clothes dryers shall comply with 611.

##### **611.2 Clear Floor Space.**

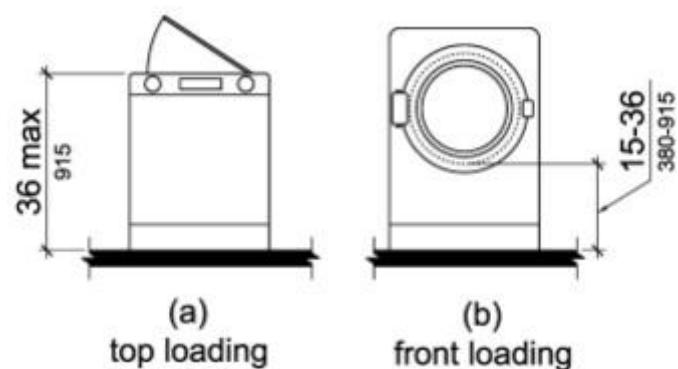
A clear floor or ground space complying with 305 positioned for parallel approach shall be provided. The clear floor or ground space shall be centered on the appliance.

##### **611.3 Operable Parts.**

*Operable parts, including doors, lint screens, and detergent and bleach compartments shall comply with 309.*

##### **611.4 Height.**

Top loading machines shall have the door to the laundry compartment located 36 inches (915 mm) maximum above the finish floor. Front loading machines shall have the bottom of the opening to the laundry compartment located 15 inches (380 mm) minimum and 36 inches (915 mm) maximum above the finish floor.



**FIGURE 611.4****HEIGHT OF LAUNDRY COMPARTMENT OPENING****612 SAUNAS AND STEAM ROOMS****612.1 General.**

Saunas and steam rooms shall comply with 612.

**612.2 Bench.**

Where seating is provided in saunas and steam rooms, at least one bench shall comply with 903. Doors shall not swing into the clear floor space required by 903.2.

**EXCEPTION:** A readily removable bench shall be permitted to obstruct the turning space required by 612.3 and the clear floor or ground space required by 903.2.

**612.3 Turning Space.**

A turning space complying with 304 shall be provided within saunas and steam rooms.

**CHAPTER 7: COMMUNICATION ELEMENTS AND FEATURES****701 GENERAL****701.1 Scope.**

The provisions of Chapter 7 shall apply where required by Chapter 2 or where referenced by a requirement in this code.

**702 FIRE ALARM SYSTEMS****702.1 General.**

Fire alarm systems shall have permanently installed audible and visible alarms complying with NFPA 72 (1999 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1), except that the maximum allowable sound level of audible notification appliances complying with section 4-3.2.1 of NFPA 72 (1999 edition) shall have a sound level no more than 110 dB at the minimum hearing distance from the audible appliance. In addition, alarms in guest rooms required to provide communication features shall comply with sections 4-3 and 4-4 of NFPA 72 (1999 edition) or sections 7.4 and 7.5 of NFPA 72 (2002 edition).

**EXCEPTION:** Fire alarm systems in medical care *facilities* shall be permitted to be provided in accordance with industry practice.

**703 SIGNS****703.1 General.**

Signs shall comply with 703. Where both visual and *tactile characters* are required, either one sign with both visual and *tactile characters*, or two separate signs, one with visual, and one with *tactile characters*, shall be provided.

**703.2 Raised Characters.**

Raised *characters* shall comply with 703.2 and shall be duplicated in braille complying with 703.3. Raised *characters* shall be installed in accordance with 703.4.

**Advisory 703.2 Raised Characters.** Signs that are designed to be read by touch should not have sharp or abrasive edges.

#### **703.2.1 Depth.**

Raised characters shall be  $\frac{1}{32}$  inch (0.8 mm) minimum above their background.

#### **703.2.2 Case.**

Characters shall be uppercase.

#### **703.2.3 Style.**

Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

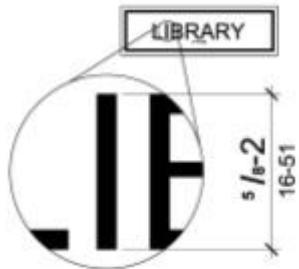
#### **703.2.4 Character Proportions.**

Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

#### **703.2.5 Character Height.**

Character height measured vertically from the baseline of the character shall be  $\frac{5}{8}$  inch (16 mm) minimum and 2 inches (51 mm) maximum based on the height of the uppercase letter "I".

**EXCEPTION:** Where separate raised and visual characters with the same information are provided, raised character height shall be permitted to be  $\frac{1}{2}$  inch (13 mm) minimum.



**FIGURE 703.2.5**

#### **HEIGHT OF RAISED CHARACTERS**

#### **703.2.6 Stroke Thickness.**

Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the height of the character.

#### **703.2.7 Character Spacing.**

Character spacing shall be measured between the two closest points of adjacent raised *characters* within a message, excluding word spaces. Where *characters* have rectangular cross sections, spacing between individual raised *characters* shall be  $\frac{1}{8}$  inch (3.2 mm) minimum and 4 times the raised *character* stroke width maximum. Where *characters* have other cross sections, spacing between individual raised *characters* shall be  $\frac{1}{16}$  inch (1.6 mm) minimum and 4 times the raised *character* stroke width maximum at the base of the cross sections, and  $\frac{1}{8}$  inch (3.2 mm) minimum and 4 times the raised *character* stroke width maximum at the top of the

cross sections. Characters shall be separated from raised borders and decorative elements  $\frac{3}{8}$  inch (9.5 mm) minimum.

#### 703.2.8 Line Spacing.

Spacing between the baselines of separate lines of raised characters within a message shall be 135 percent minimum and 170 percent maximum of the raised character height.

#### 703.3 Braille.

Braille shall be contracted (Grade 2) and shall comply with 703.3 and 703.4.

##### 703.3.1 Dimensions and Capitalization.

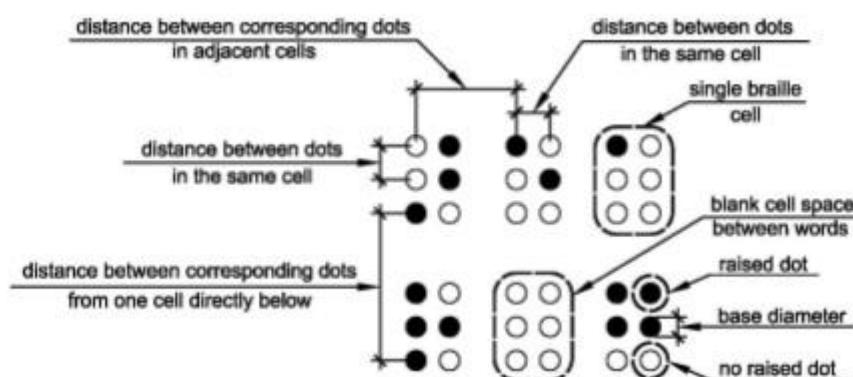
Braille dots shall have a domed or rounded shape and shall comply with Table 703.3.1. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.

**TABLE 703.3.1**

#### BRAILLE DIMENSIONS

MEASUREMENT RANGE	MINIMUM IN INCHES
Dot base diameter	0.059 (1.5 mm) to 0.087 (2.2 mm)
Distance between two dots in the same cell <sup>1</sup>	0.090 (2.3 mm) to 0.118 (3.0 mm)
Distance between corresponding dots in adjacent cells <sup>1</sup>	0.241 (6.1 mm) to 0.268 (6.8 mm)
Dot height	0.025 (0.6 mm) to 0.039 (1.0 mm)
Distance between corresponding dots from one cell directly below <sup>1</sup>	0.395 (10 mm) to 0.423 (10.7 mm)

1. Measured center to center. .1



**FIGURE 703.3.1**

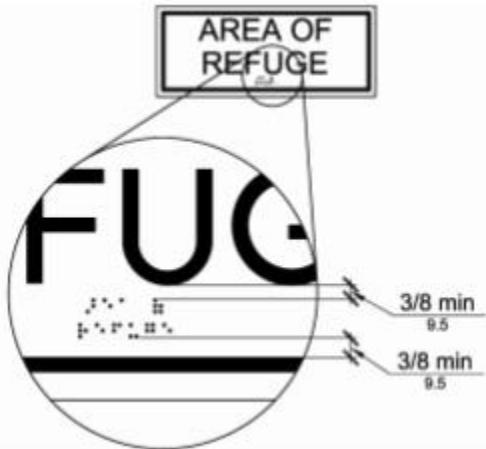
#### BRAILLE MEASUREMENT

##### 703.3.2 Position.

Braille shall be positioned below the corresponding text. If text is multi-lined, braille shall be placed below the entire text. Braille shall be separated  $\frac{3}{8}$  inch (9.5 mm) minimum from any

other *tactile characters* and  $\frac{3}{8}$  inch (9.5 mm) minimum from raised borders and decorative elements.

**EXCEPTION:** Braille provided on elevator car controls shall be separated  $\frac{3}{16}$  inch (4.8 mm) minimum and shall be located either directly below or adjacent to the corresponding raised characters or symbols.



**FIGURE 703.3.2**

**POSITION OF BRAILLE**

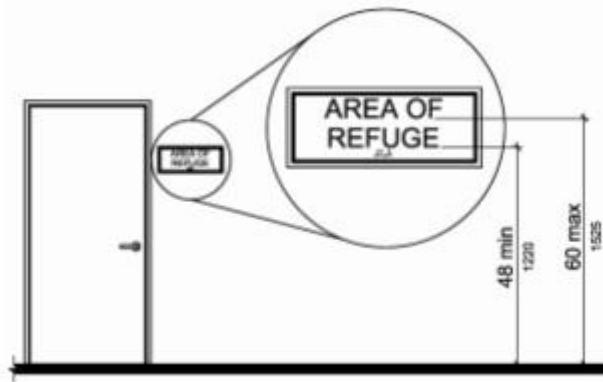
**703.4 Installation Height and Location.**

Signs with *tactile characters* shall comply with 703.4.

**703.4.1 Height Above Finish Floor or Ground.**

*Tactile characters* on signs shall be located 48 inches (1220 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest *tactile character* and 60 inches (1525 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest *tactile character*.

**EXCEPTION:** *Tactile characters* for elevator car controls shall not be required to comply with 703.4.1.



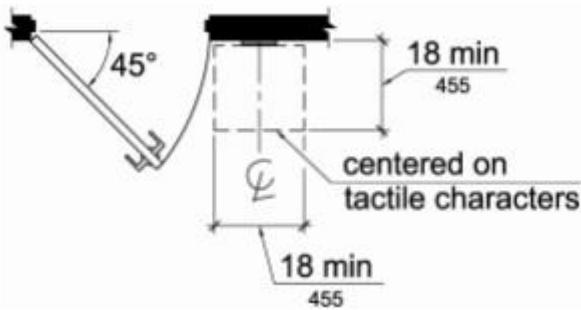
**FIGURE 703.4.1**

**HEIGHT OF TACTILE CHARACTERS ABOVE FINISH FLOOR OR GROUND**

**703.4.2 Location.**

Where a *tactile* sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a *tactile* sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a *tactile* sign is provided at double doors with two active leaves, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing *tactile characters* shall be located so that a clear floor space of 18 inches (455 mm) minimum by 18 inches (455 mm) minimum, centered on the *tactile characters*, is provided beyond the arc of any door swing between the closed position and 45 degree open position.

**EXCEPTION:** Signs with *tactile characters* shall be permitted on the push side of doors with closers and without hold-open devices.



**FIGURE 703.4.2**

#### **LOCATION OF TACTILE SIGNS AT DOORS**

##### **703.5 Visual Characters.**

Visual *characters* shall comply with 703.5.

**EXCEPTION:** Where visual *characters* comply with 703.2 and are accompanied by braille complying with 703.3, they shall not be required to comply with 703.5.2 through 703.5.9.

##### **703.5.1 Finish and Contrast.**

*Characters* and their background shall have a non-glare finish. *Characters* shall contrast with their background with either light *characters* on a dark background or dark *characters* on a light background.

**Advisory 703.5.1 Finish and Contrast.** Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and its background colors and textures.

##### **703.5.2 Case.**

*Characters* shall be uppercase or lowercase or a combination of both.

##### **703.5.3 Style.**

*Characters* shall be conventional in form. *Characters* shall not be italic, oblique, script, highly decorative, or of other unusual forms.

##### **703.5.4 Character Proportions.**

*Characters* shall be selected from fonts where the width of the uppercase letter “O” is 55 percent minimum and 110 percent maximum of the height of the uppercase letter “I”.

#### **703.5.5 Character Height.**

Minimum *character* height shall comply with Table 703.5.5. Viewing distance shall be measured as the horizontal distance between the *character* and an obstruction preventing further approach towards the sign. *Character* height shall be based on the uppercase letter “I”.

**TABLE 703.5.5**

#### **VISUAL CHARACTER HEIGHT**

HEIGHT TO FINISH FLOOR OR GROUNDFROM BASELINE OF CHARACTER	HORIZONTAL VIEWINGDISTANCE	MINIMUM CHARACTER H
40 inches (1015 mm) to less than or equal to 70 inches (1780 mm)	less than 72 inches (1830 mm)	5/8 inch (16 mm)
	72 inches (1830 mm) and greater	5/8 inch (16 mm), plus 1/8 distance above 72 inches
Greater than 70 inches (1780 mm) to less than or equal to 120 inches (3050 mm)	less than 180 inches (4570 mm)	2 inches (51 mm)
	180 inches (4570 mm) and greater	2 inches (51 mm), plus 1/8 distance above 180 inches
Greater than 120 inches (3050 mm)	less than 21 feet (6400 mm)	3 inches (75 mm)
	21 feet (6400 mm) and greater	3 inches (75 mm), plus 1/8 distance above 21 feet (6400 mm)

#### **703.5.6 Height From Finish Floor or Ground.**

Visual *characters* shall be 40 inches (1015 mm) minimum above the finish floor or ground.

**EXCEPTION:** Visual *characters* indicating elevator car controls shall not be required to comply with 703.5.6.

#### **703.5.7 Stroke Thickness.**

Stroke thickness of the uppercase letter “I” shall be 10 percent minimum and 30 percent maximum of the height of the *character*.

#### **703.5.8 Character Spacing.**

*Character* spacing shall be measured between the two closest points of adjacent *characters*, excluding word spaces. Spacing between individual *characters* shall be 10 percent minimum and 35 percent maximum of *character* height.

#### **703.5.9 Line Spacing.**

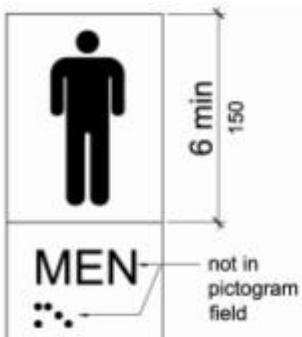
Spacing between the baselines of separate lines of *characters* within a message shall be 135 percent minimum and 170 percent maximum of the *character* height.

#### **703.6 Pictograms.**

*Pictograms* shall comply with 703.6.

#### **703.6.1 Pictogram Field.**

*Pictograms* shall have a field height of 6 inches (150 mm) minimum. *Characters* and braille shall not be located in the *pictogram field*.



**FIGURE 703.6.1**

#### **PICTOGRAM FIELD**

#### **703.6.2 Finish and Contrast.**

*Pictograms* and their field shall have a non-glare finish. *Pictograms* shall contrast with their field with either a light *pictogram* on a dark field or a dark *pictogram* on a light field.

**Advisory 703.6.2 Finish and Contrast.** Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and background colors and textures.

#### **703.6.3 Text Descriptors.**

*Pictograms* shall have text descriptors located directly below the *pictogram field*. Text descriptors shall comply with 703.2, 703.3 and 703.4.

#### **703.7 Symbols of Accessibility.**

Symbols of accessibility shall comply with 703.7.

#### **703.7.1 Finish and Contrast.**

Symbols of accessibility and their background shall have a non-glare finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background.

**Advisory 703.7.1 Finish and Contrast.** Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and background colors and textures.

#### **703.7.2 Symbols.**

##### **703.7.2.1 International Symbol of Accessibility.**

The International Symbol of Accessibility shall comply with Figure 703.7.2.1.



**FIGURE 703.7.2.1**

**INTERNATIONAL SYMBOL OF ACCESSIBILITY**

**703.7.2.2 International Symbol of TTY.**

The International Symbol of *TTY* shall comply with Figure 703.7.2.2.



**FIGURE 703.7.2.2**

**INTERNATIONAL SYMBOL OF TTY**

**703.7.2.3 Volume Control Telephones.**

Telephones with a volume control shall be identified by a *pictogram* of a telephone handset with radiating sound waves on a square field such as shown in Figure 703.7.2.3.



**FIGURE 703.7.2.3**

**VOLUME CONTROL TELEPHONE**

**703.7.2.4 Assistive Listening Systems.**

*Assistive listening systems* shall be identified by the International Symbol of Access for Hearing Loss complying with Figure 703.7.2.4.



**FIGURE 703.7.2.4**

**INTERNATIONAL SYMBOL OF ACCESS FOR HEARING LOSS**

**704 TELEPHONES**

**704.1 General.**

Public telephones shall comply with 704.

**704.2 Wheelchair Accessible Telephones.**

*Wheelchair accessible* telephones shall comply with 704.2.

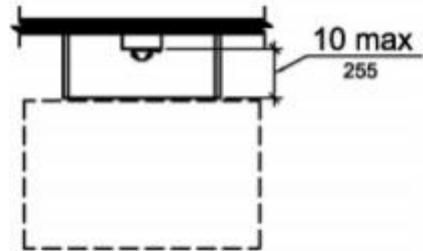
**704.2.1 Clear Floor or Ground Space.**

A clear floor or ground space complying with 305 shall be provided. The clear floor or ground space shall not be obstructed by bases, enclosures, or seats.

**Advisory 704.2.1 Clear Floor or Ground Space.** Because clear floor and ground space is required to be unobstructed, telephones, enclosures and related telephone book storage cannot encroach on the required clear floor or ground space and must comply with the provisions for protruding objects. (See Section 307).

**704.2.1.1 Parallel Approach.**

Where a parallel approach is provided, the distance from the edge of the telephone enclosure to the face of the telephone unit shall be 10 inches (255 mm) maximum.

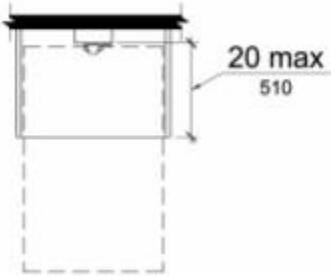


**FIGURE 704.2.1.1**

**PARALLEL APPROACH TO TELEPHONE**

**704.2.1.2 Forward Approach.**

Where a forward approach is provided, the distance from the front edge of a counter within the telephone enclosure to the face of the telephone unit shall be 20 inches (510 mm) maximum.



**FIGURE 704.2.1.2**

**FORWARD APPROACH TO TELEPHONE**

**704.2.2 Operable Parts.**

*Operable parts* shall comply with 309. Telephones shall have push-button controls where such service is available.

**704.2.3 Telephone Directories.**

Telephone directories, where provided, shall be located in accordance with 309.

**704.2.4 Cord Length.**

The cord from the telephone to the handset shall be 29 inches (735 mm) long minimum.

**704.3 Volume Control Telephones.**

Public telephones required to have volume controls shall be equipped with a receive volume control that provides a gain adjustable up to 20 dB minimum. For incremental volume control, provide at least one intermediate step of 12 dB of gain minimum. An automatic reset shall be provided.

**Advisory 704.3 Volume Control Telephones.** Amplifiers on pay phones are located in the base or the handset or are built into the telephone. Most are operated by pressing a button or key. If the microphone in the handset is not being used, a mute button that temporarily turns off the microphone can also reduce the amount of background noise which the person hears in the earpiece. If a volume adjustment is provided that allows the user to set the level anywhere from the base volume to the upper requirement of 20 dB, there is no need to specify a lower limit. If a stepped volume control is provided, one of the intermediate levels must provide 12 dB of gain. Consider compatibility issues when matching an amplified handset with a phone or phone system. Amplified handsets that can be switched with pay telephone handsets are available. Portable and in-line amplifiers can be used with some phones but are not practical at most public phones covered by these requirements.

**704.4 TTYs.**

TTYs required at a public pay telephone shall be permanently affixed within, or adjacent to, the telephone enclosure. Where an acoustic coupler is used, the telephone cord shall be sufficiently long to allow connection of the TTY and the telephone receiver.

**Advisory 704.4 TTYs.** Ensure that sufficient electrical service is available where TTYs are to be installed.

**704.4.1 Height.**

When in use, the touch surface of TTY keypads shall be 34 inches (865 mm) minimum above the finish floor.

**EXCEPTION:** Where seats are provided, TTYs shall not be required to comply with 704.4.1.

**Advisory 704.4.1 Height.** A telephone with a TTY installed underneath cannot also be a wheelchair accessible telephone because the required 34 inches (865 mm) minimum keypad height can cause the highest operable part of the telephone, usually the coin slot, to exceed the maximum permitted side and forward reach ranges. (See Section 308).

**Advisory 704.4.1 Height Exception.** While seats are not required at TTYs, reading and typing at a TTY is more suited to sitting than standing. Facilities that often provide seats at TTY's include, but are not limited to, airports and other passenger terminals or stations, courts, art galleries, and convention centers.

#### 704.5 TTY Shelf.

Public pay telephones required to accommodate portable TTYs shall be equipped with a shelf and an electrical outlet within or adjacent to the telephone enclosure. The telephone handset shall be capable of being placed flush on the surface of the shelf. The shelf shall be capable of accommodating a TTY and shall have 6 inches (150 mm) minimum vertical clearance above the area where the TTY is to be placed.

### 705 DETECTABLE WARNINGS

#### 705.1 General.

*Detectable warnings* shall consist of a surface of truncated domes and shall comply with 705.

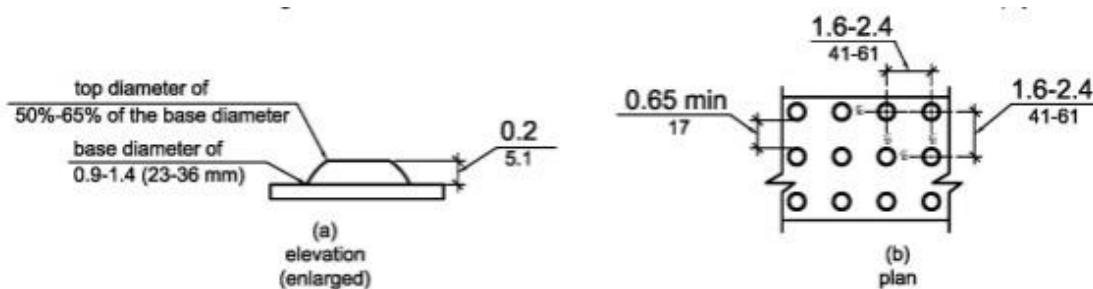


FIGURE 705.1

#### SIZE AND SPACING OF TRUNCATED DOMES

##### 705.1.1 Dome Size.

Truncated domes in a *detectable warning* surface shall have a base diameter of 0.9 inch (23 mm) minimum and 1.4 inches (36 mm) maximum, a top diameter of 50 percent of the base diameter minimum to 65 percent of the base diameter maximum, and a height of 0.2 inch (5.1 mm).

##### 705.1.2 Dome Spacing.

Truncated domes in a *detectable warning* surface shall have a center-to-center spacing of 1.6 inches (41 mm) minimum and 2.4 inches (61 mm) maximum, and a base-to-base spacing of 0.65 inch (17 mm) minimum, measured between the most adjacent domes on a square grid.

##### 705.1.3 Contrast.

*Detectable warning surfaces* shall contrast visually with adjacent walking surfaces either light-on-dark, or dark-on-light.

#### 705.2 Platform Edges.

*Detectable warning* surfaces at platform boarding edges shall be 24 inches (610 mm) wide and shall extend the full length of the *public use* areas of the platform.

## **706 ASSISTIVE LISTENING SYSTEMS**

### **706.1 General.**

*Assistive listening systems* required in *assembly areas* shall comply with 706.

**Advisory 706.1 General.** Assistive listening systems are generally categorized by their mode of transmission. There are hard-wired systems and three types of wireless systems: induction loop, infrared, and FM radio transmission. Each has different advantages and disadvantages that can help determine which system is best for a given application. For example, an FM system may be better than an infrared system in some open-air assemblies since infrared signals are less effective in sunlight. On the other hand, an infrared system is typically a better choice than an FM system where confidential transmission is important because it will be contained within a given space.

The technical standards for assistive listening systems describe minimum performance levels for volume, interference, and distortion. Sound pressure levels (SPL), expressed in decibels, measure output sound volume. Signal-to-noise ratio (SNR or S/N), also expressed in decibels, represents the relationship between the loudness of a desired sound (the signal) and the background noise in a space or piece of equipment. The higher the SNR, the more intelligible the signal. The peak clipping level limits the distortion in signal output produced when high-volume sound waves are manipulated to serve assistive listening devices.

Selecting or specifying an effective assistive listening system for a large or complex venue requires assistance from a professional sound engineer. The Access Board has published technical assistance on assistive listening devices and systems.

### **706.2 Receiver Jacks.**

Receivers required for use with an *assistive listening system* shall include a  $\frac{1}{8}$ inch (3.2 mm) standard mono jack.

### **706.3 Receiver Hearing-Aid Compatibility.**

Receivers required to be hearing-aid compatible shall interface with telecoils in hearing aids through the provision of neckloops.

**Advisory 706.3 Receiver Hearing-Aid Compatibility.** Neckloops and headsets that can be worn as neckloops are compatible with hearing aids. Receivers that are not compatible include earbuds, which may require removal of hearing aids, earphones, and headsets that must be worn over the ear, which can create disruptive interference in the transmission and can be uncomfortable for people wearing hearing aids.

### **706.4 Sound Pressure Level.**

*Assistive listening systems* shall be capable of providing a sound pressure level of 110 dB minimum and 118 dB maximum with a dynamic range on the volume control of 50 dB.

### **706.5 Signal-to-Noise Ratio.**

The signal-to-noise ratio for internally generated noise in *assistive listening systems* shall be 18 dB minimum.

### **706.6 Peak Clipping Level.**

Peak clipping shall not exceed 18 dB of clipping relative to the peaks of speech.

## **707 AUTOMATIC TELLER MACHINES AND FARE MACHINES**

**Advisory 707 Automatic Teller Machines and Fare Machines.** Interactive transaction machines (ITMs), other than ATMs, are not covered by Section 707. However, for entities covered by the ADA, the Department of Justice regulations that implement the ADA provide additional guidance regarding the relationship between these requirements and elements that are not directly addressed by these requirements. Federal procurement law requires that ITMs purchased by the Federal government comply with standards issued by the Access Board under Section 508 of the Rehabilitation Act of 1973, as amended. This law covers a variety of products, including computer hardware and software, web sites, phone systems, fax machines, copiers, and similar technologies. For more information on Section 508 consult the Access Board's web site at [www.access-board.gov](http://www.access-board.gov).

### **707.1 General.**

Automatic teller machines and fare machines shall comply with 707.

**Advisory 707.1 General.** If farecards have one tactually distinctive corner they can be inserted with greater accuracy. Token collection devices that are designed to accommodate tokens which are perforated can allow a person to distinguish more readily between tokens and common coins. Place accessible gates and fare vending machines in close proximity to other accessible elements when feasible so the facility is easier to use.

### **707.2 Clear Floor or Ground Space.**

A clear floor or ground space complying with 305 shall be provided.

**EXCEPTION:** Clear floor or ground space shall not be required at drive-up only automatic teller machines and fare machines.

### **707.3 Operable Parts.**

*Operable parts* shall comply with 309. Unless a clear or correct key is provided, each *operable part* shall be able to be differentiated by sound or touch, without activation.

**EXCEPTION:** Drive-up only automatic teller machines and fare machines shall not be required to comply with 309.2 and 309.3.

### **707.4 Privacy.**

Automatic teller machines shall provide the opportunity for the same degree of privacy of input and output available to all individuals.

**Advisory 707.4 Privacy.** In addition to people who are blind or visually impaired, people with limited reach who use wheelchairs or have short stature, who cannot effectively block the ATM screen with their bodies, may prefer to use speech output. Speech output users can benefit from an option to render the visible screen blank, thereby affording them greater personal security and privacy.

### **707.5 Speech Output.**

Machines shall be speech enabled. Operating instructions and orientation, visible transaction prompts, user input verification, error messages, and all displayed information for full use shall be *accessible* to and independently usable by individuals with vision impairments. Speech shall be delivered through a mechanism that is readily available to all users, including but not limited to, an industry standard connector or a telephone handset. Speech shall be recorded or digitized human, or synthesized.

### **EXCEPTIONS:**

**1.**Audible tones shall be permitted instead of speech for visible output that is not .1 displayed for security purposes, including but not limited to, asterisks representing personal identification numbers.

**2.**Advertisements and other similar information shall not be required to be audible .2 unless they convey information that can be used in the transaction being conducted.

**3.**Where speech synthesis cannot be supported, dynamic alphabetic output shall not be .3 required to be audible.

**Advisory 707.5 Speech Output.** If an ATM provides additional functions such as dispensing coupons, selling theater tickets, or providing copies of monthly statements, all such functions must be available to customers using speech output. To avoid confusion at the ATM, the method of initiating the speech mode should be easily discoverable and should not require specialized training. For example, if a telephone handset is provided, lifting the handset can initiate the speech mode.

#### **707.5.1 User Control.**

Speech shall be capable of being repeated or interrupted. Volume control shall be provided for the speech function.

**EXCEPTION:** Speech output for any single function shall be permitted to be automatically interrupted when a transaction is selected.

#### **707.5.2 Receipts.**

Where receipts are provided, speech output devices shall provide audible balance inquiry information, error messages, and all other information on the printed receipt necessary to complete or verify the transaction.

#### **EXCEPTIONS:**

**1.**Machine location, date and time of transaction, customer account number, and the .1 machine identifier shall not be required to be audible.

**2.**Information on printed receipts that duplicates information available on-screen shall .2 not be required to be presented in the form of an audible receipt.

**3.**Printed copies of bank statements and checks shall not be required to be audible. .3

#### **707.6 Input.**

Input devices shall comply with 707.6.

##### **707.6.1 Input Controls.**

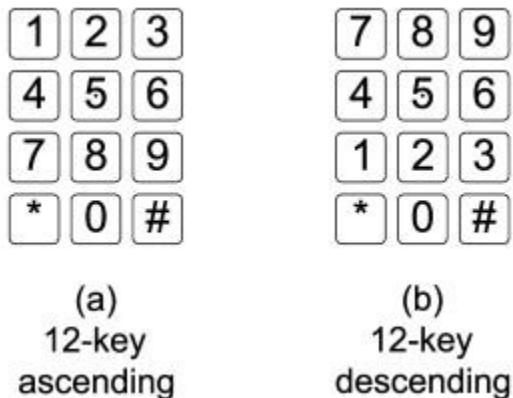
At least one tactiley discernible input control shall be provided for each function. Where provided, key surfaces not on active areas of display screens, shall be raised above surrounding surfaces. Where membrane keys are the only method of input, each shall be tactiley discernable from surrounding surfaces and adjacent keys.

##### **707.6.2 Numeric Keys.**

Numeric keys shall be arranged in a 12-key ascending or descending telephone keypad layout. The number five key shall be tactiley distinct from the other keys.

**Advisory 707.6.2 Numeric Keys.** Telephone keypads and computer keyboards differ in one significant feature, ascending versus descending numerical order. Both types of keypads are acceptable, provided the computer-style keypad is organized similarly to the number pad located

at the right on most computer keyboards, and does not resemble the line of numbers located above the computer keys.



**FIGURE 707.6.2**

**NUMERIC KEY LAYOUT**

**707.6.3 Function Keys.**

Function keys shall comply with 707.6.3.

**707.6.3.1 Contrast.**

Function keys shall contrast visually from background surfaces. *Characters* and symbols on key surfaces shall contrast visually from key surfaces. Visual contrast shall be either light-on-dark or dark-on-light.

**EXCEPTION:** *Tactile* symbols required by 707.6.3.2 shall not be required to comply with 707.6.3.1.

**707.6.3.2 Tactile Symbols.**

Function key surfaces shall have *tactile* symbols as follows: Enter or Proceed key: raised circle; Clear or Correct key: raised left arrow; Cancel key: raised letter ex; Add Value key: raised plus sign; Decrease Value key: raised minus sign.

**707.7 Display Screen.**

The display screen shall comply with 707.7.

**EXCEPTION:** Drive-up only automatic teller machines and fare machines shall not be required to comply with 707.7.1.

**707.7.1 Visibility.**

The display screen shall be visible from a point located 40 inches (1015 mm) above the center of the clear floor space in front of the machine.

**707.7.2 Characters.**

*Characters* displayed on the screen shall be in a sans serif font. *Characters* shall be  $\frac{3}{16}$  inch (4.8 mm) high minimum based on the uppercase letter "I". *Characters* shall contrast with their background with either light *characters* on a dark background or dark *characters* on a light background.

**707.8 Braille Instructions.**

Braille instructions for initiating the speech mode shall be provided. Braille shall comply with 703.3.

## **708 TWO-WAY COMMUNICATION SYSTEMS**

### **708.1 General.**

Two-way communication systems shall comply with 708.

**Advisory 708.1 General.** Devices that do not require handsets are easier to use by people who have a limited reach.

### **708.2 Audible and Visual Indicators.**

The system shall provide both audible and visual signals.

**Advisory 708.2 Audible and Visual Indicators.** A light can be used to indicate visually that assistance is on the way. Signs indicating the meaning of visual signals should be provided.

### **708.3 Handsets.**

Handset cords, if provided, shall be 29 inches (735 mm) long minimum.

### **708.4 Residential Dwelling Unit Communication Systems.**

Communications systems between a *residential dwelling unit* and a site, *building*, or floor *entrance* shall comply with 708.4.

#### **708.4.1 Common Use or Public Use System Interface.**

The *common use* or *public use* system interface shall include the capability of supporting voice and *TTY* communication with the *residential dwelling unit* interface.

#### **708.4.2 Residential Dwelling Unit Interface.**

The *residential dwelling unit* system interface shall include a telephone jack capable of supporting voice and *TTY* communication with the *common use* or *public use* system interface.

## **CHAPTER 8: SPECIAL ROOMS, SPACES AND ELEMENTS**

### **801 GENERAL**

#### **801.1 Scope.**

The provisions of Chapter 8 shall apply where required by Chapter 2 or where referenced by a requirement in this code.

**Advisory 801.1 Scope.** Facilities covered by these requirements are also subject to the requirements of the other chapters. For example, 806 addresses guest rooms in transient lodging facilities while 902 contains the technical specifications for dining surfaces. If a transient lodging facility contains a restaurant, the restaurant must comply with requirements in other chapters such as those applicable to certain dining surfaces.

## 802 WHEELCHAIR SPACES, COMPANION SEATS, AND DESIGNATED AISLE SEATS

### 802.1 Wheelchair Spaces.

*Wheelchair spaces* shall comply with 802.1.

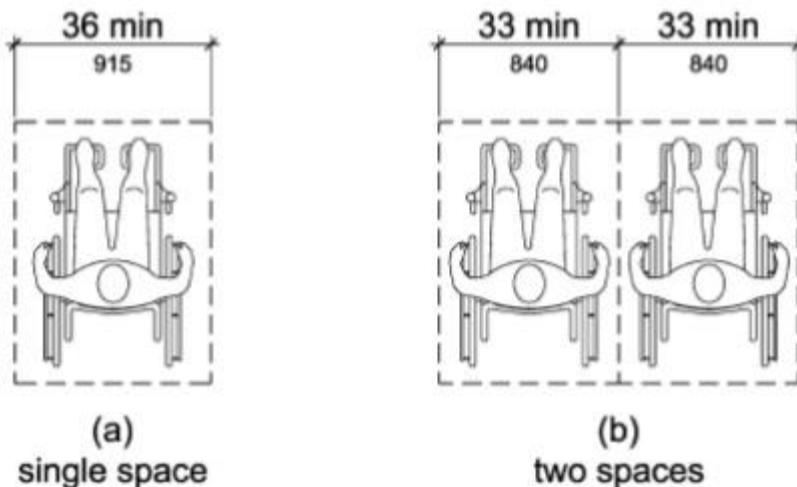
#### 802.1.1 Floor or Ground Surface.

The floor or ground surface of *wheelchair spaces* shall comply with 302. Changes in level are not permitted.

**EXCEPTION:** Slopes not steeper than 1:48 shall be permitted.

#### 802.1.2 Width.

A single *wheelchair space* shall be 36 inches (915 mm) wide minimum. Where two adjacent *wheelchair spaces* are provided, each *wheelchair space* shall be 33 inches (840 mm) wide minimum.

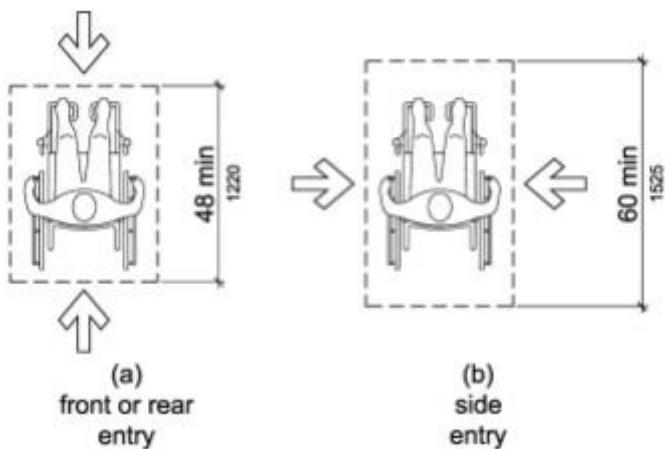


**FIGURE 802.1.2**

### WIDTH OF WHEELCHAIR SPACES IN ASSEMBLY AREAS

#### 802.1.3 Depth.

Where a *wheelchair space* can be entered from the front or rear, the *wheelchair space* shall be 48 inches (1220 mm) deep minimum. Where a *wheelchair space* can be entered only from the side, the *wheelchair space* shall be 60 inches (1525 mm) deep minimum.



**FIGURE 802.1.3**

#### DEPTH OF WHEELCHAIR SPACES IN ASSEMBLY AREAS

##### **802.1.4 Approach.**

*Wheelchair spaces shall adjoin accessible routes. Accessible routes shall not overlap wheelchair spaces.*

**Advisory 802.1.4 Approach.** Because accessible routes serving wheelchair spaces are not permitted to overlap the clear floor space at wheelchair spaces, access to any wheelchair space cannot be through another wheelchair space.

##### **802.1.5 Overlap.**

*Wheelchair spaces shall not overlap circulation paths.*

**Advisory 802.1.5 Overlap.** The term “circulation paths” used in Section 802.1.5 means aisle width required by applicable building or life safety codes for the specific assembly occupancy. Where the circulation path provided is wider than the required aisle width, the wheelchair space may intrude into that portion of the circulation path that is provided in excess of the required aisle width.

##### **802.2 Lines of Sight.**

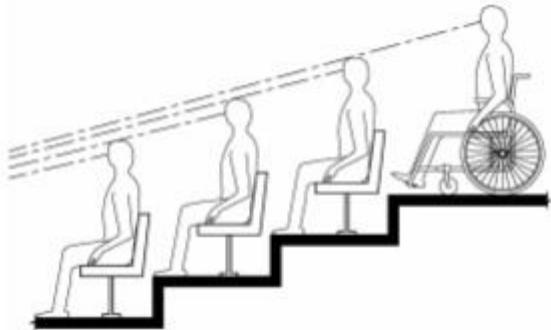
Lines of sight to the screen, performance area, or playing field for spectators in *wheelchair spaces* shall comply with 802.2.

##### **802.2.1 Lines of Sight Over Seated Spectators.**

Where spectators are expected to remain seated during events, spectators in *wheelchair spaces* shall be afforded lines of sight complying with 802.2.1.

##### **802.2.1.1 Lines of Sight Over Heads.**

Where spectators are provided lines of sight over the heads of spectators seated in the first row in front of their seats, spectators seated in *wheelchair spaces* shall be afforded lines of sight over the heads of seated spectators in the first row in front of *wheelchair spaces*.

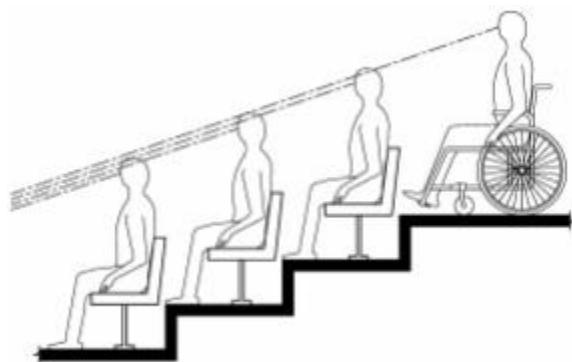


**FIGURE 802.2.1.1**

**LINES OF SIGHT OVER THE HEADS OF SEATED SPECTATORS**

**802.2.1.2 Lines of Sight Between Heads.**

Where spectators are provided lines of sight over the shoulders and between the heads of spectators seated in the first row in front of their seats, spectators seated in *wheelchair spaces* shall be afforded lines of sight over the shoulders and between the heads of seated spectators in the first row in front of *wheelchair spaces*.



**FIGURE 802.2.1.2**

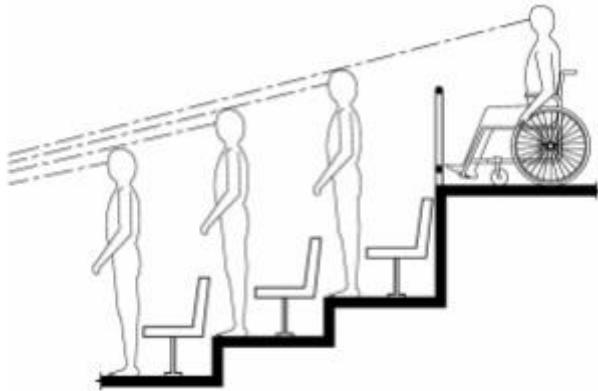
**LINES OF SIGHT BETWEEN THE HEADS OF SEATED SPECTATORS**

**802.2.2 Lines of Sight Over Standing Spectators.**

Where spectators are expected to stand during events, spectators in *wheelchair spaces* shall be afforded lines of sight complying with 802.2.2.

**802.2.2.1 Lines of Sight Over Heads.**

Where standing spectators are provided lines of sight over the heads of spectators standing in the first row in front of their seats, spectators seated in *wheelchair spaces* shall be afforded lines of sight over the heads of standing spectators in the first row in front of *wheelchair spaces*.

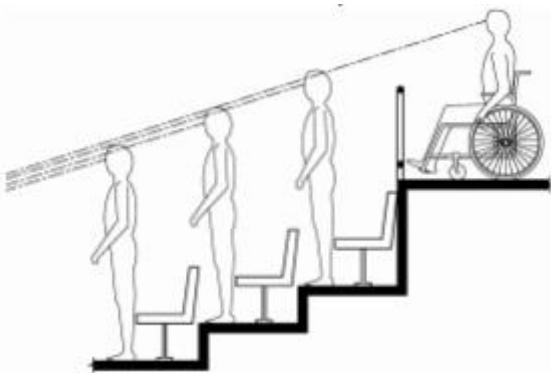


**FIGURE 802.2.2.1**

**LINES OF SIGHT OVER THE HEADS OF STANDING SPECTATORS**

**802.2.2 Lines of Sight Between Heads.**

Where standing spectators are provided lines of sight over the shoulders and between the heads of spectators standing in the first row in front of their seats, spectators seated in *wheelchair* spaces shall be afforded lines of sight over the shoulders and between the heads of standing spectators in the first row in front of *wheelchair* spaces.



**FIGURE 802.2.2**

**LINES OF SIGHT BETWEEN THE HEADS OF STANDING SPECTATORS**

**802.3 Companion Seats.**

Companion seats shall comply with 802.3.

**802.3.1 Alignment.**

In row seating, companion seats shall be located to provide shoulder alignment with adjacent *wheelchair* spaces. The shoulder alignment point of the *wheelchair* space shall be measured 36 inches (915 mm) from the front of the *wheelchair* space. The floor surface of the companion seat shall be at the same elevation as the floor surface of the *wheelchair* space.

**802.3.2 Type.**

Companion seats shall be equivalent in size, quality, comfort, and amenities to the seating in the immediate area. Companion seats shall be permitted to be movable.

**802.4 Designated Aisle Seats.**

Designated aisle seats shall comply with 802.4.