

# **ACCESSIBILTY REQUIREMENTS FOR RESTROOMS**

**Information and reference drawings are from the American  
National Standard ICC/ANSI A117.1-2003  
Additional requirements are contained in Chapter 10, 11, 34  
and Appendix E of the 2006 International Building Code.**

Where there is a conflict between the International Building Code and ANSI A 117.1-2003 The most restrictive requirements shall apply.

This is for information only. It is up to the individual, designer, builder etc. to determine which situations apply on a particular job and apply the requirements as applicable.

## **NOTE**

The City of canon City does not enforce the Americans with Disabilities Act requirements. This act is enforced by the United States Department of Justice.

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## Chapter 6. Plumbing Elements and Facilities

### 601 General

**601.1 Scope.** Plumbing elements and facilities required to be accessible by scoping provisions adopted by the administrative authority shall comply with the applicable provisions of Chapter 6.

### 602 Drinking Fountains

**602.1 General.** Accessible drinking fountains shall comply with Sections 602 and 307.

**602.2 Clear Floor Space.** A clear floor space complying with Section 305, positioned for a forward approach to the drinking fountain, shall be provided. Knee and toe space complying with Section 306 shall be provided. The clear floor space shall be centered on the drinking fountain.

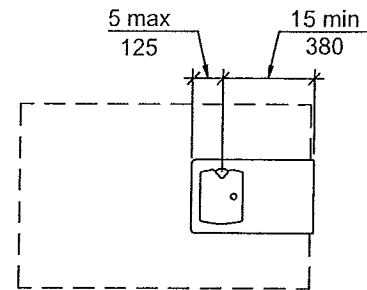
#### EXCEPTIONS:

1. Drinking fountains for standing persons.
2. Drinking fountains primarily for children's use shall be permitted where the spout is 30 inches (760 mm) maximum above the floor, and a parallel approach complying with Section 305, centered on the drinking fountain, is provided.
3. In existing buildings, existing drinking fountains providing a parallel approach complying with Section 305, centered on the drinking fountain, shall be permitted.
4. Where specifically permitted by the administrative authority, a parallel approach complying with Section 305, centered on the drinking fountain, shall be permitted for drinking fountains that replace existing drinking fountains with a parallel approach.

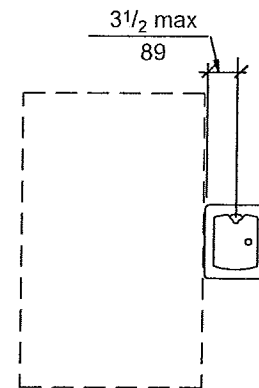
**602.3 Operable Parts.** Operable parts shall comply with Section 309.

**602.4 Spout Outlet Height.** Spout outlets of wheelchair accessible drinking fountains shall be 36 inches (915 mm) maximum above the floor. Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1090 mm) maximum above the floor.

**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 drinking fountain, including bumpers.



(a) Forward Approach



(b) Parallel Approach

Fig. 602.5  
Drinking Fountain Spout Location

Where only a parallel approach is provided, the spout shall be located 3 1/2 inches (89 mm) maximum from the front edge of the drinking fountain, including bumpers.

**602.6 Water Flow.** The spout shall provide a flow of water 4 inches (102 mm) minimum in height. The angle of the water stream from spouts within 3 inches (76 mm) of the front of the drinking fountain shall be 30 degrees maximum, and from spouts between 3 inches (76 mm) and 5 inches (125 mm) from the front of the drinking fountain shall be 15 degrees maximum, measured horizontally relative to the front face of the drinking fountain.

**603 Toilet and Bathing Rooms**

**603.1 General.** Accessible toilet and bathing rooms shall comply with Section 603.

**603.2 Clearances.**

**603.2.1 Turning Space.** A turning space complying with Section 304 shall be provided within the room.

**603.2.2 Overlap.** Clear floor spaces, clearances at fixtures, and turning spaces shall be permitted to overlap.

**603.2.3 Door Swing.** Doors shall not swing into the clear floor space or clearance for any fixture.

**EXCEPTIONS:**

1. Doors to a toilet and 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, provided the swing of the door can be reversed to meet Section 603.2.3.
2. Where the room is for individual use and a clear floor space complying with Section 305.3 is provided within the room beyond the arc of the door swing.

**603.3 Mirrors.** Mirrors located above lavatories, sinks or counters shall be mounted with the bottom edge of the reflecting surface 40 inches (1015 mm)

maximum above the floor. Mirrors not located above lavatories, sinks or counters shall be mounted with the bottom edge of the reflecting surface 35 inches (890 mm) maximum above the floor.

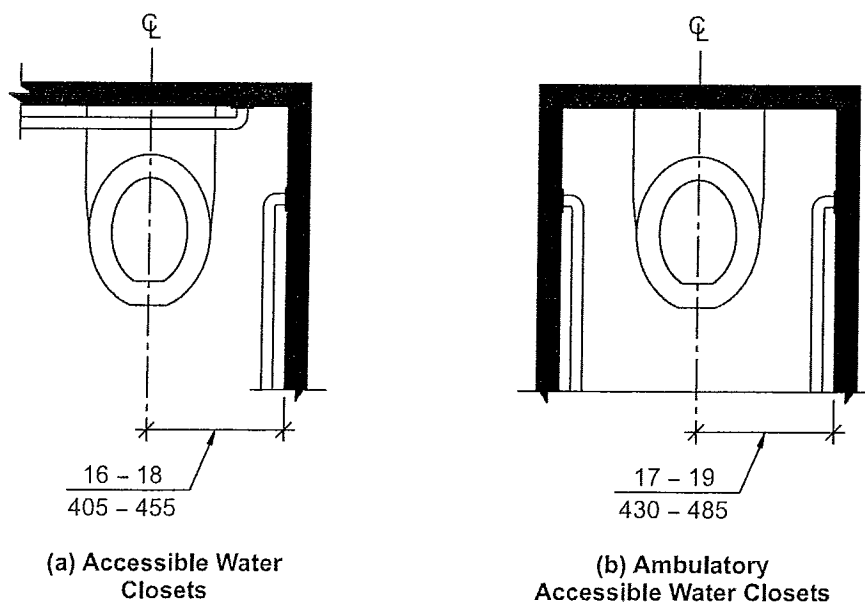
**603.4 Coat Hooks and Shelves.** Coat hooks shall be located within one of the reach ranges specified in Section 308. Shelves shall be 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the floor.

**604 Water Closets and Toilet Compartments**

**604.1 General.** Accessible water closets and toilet compartments shall comply with Section 604. Compartments containing more than one plumbing fixture shall comply with Section 603. Wheelchair accessible compartments shall comply with Section 604.8. Ambulatory accessible compartments shall comply with Section 604.9.

**EXCEPTION:** Water closets and toilet compartments primarily for children's use shall be permitted to comply with Section 604.10 as applicable.

**604.2 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 16 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition. Water closets located in ambulatory accessible compartments specified in Section 604.9 shall have the centerline of the water closet 17 inches (430 mm) minimum to 19 inches (485 mm) maximum from the side wall or partition.

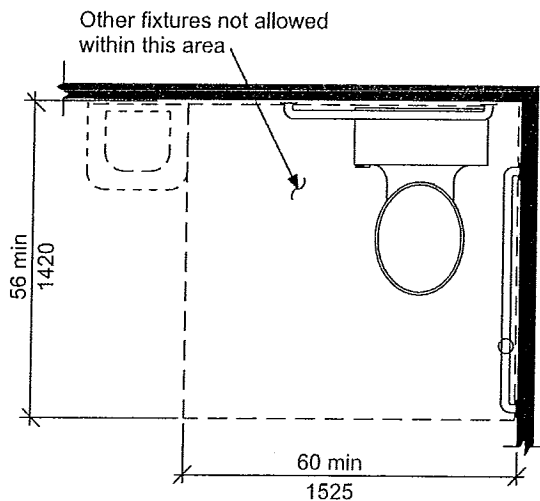


**Fig. 604.2**  
Water Closet Location

**604.3 Clearance.**

**604.3.1 Size.** A clearance around a water closet 60 inches (1525 mm) minimum, measured perpendicular from the sidewall, and 56 inches (1420 mm) minimum, measured perpendicular from the rear wall, shall be provided.

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



**Fig. 604.3**  
Size of Clearance for Water Closet

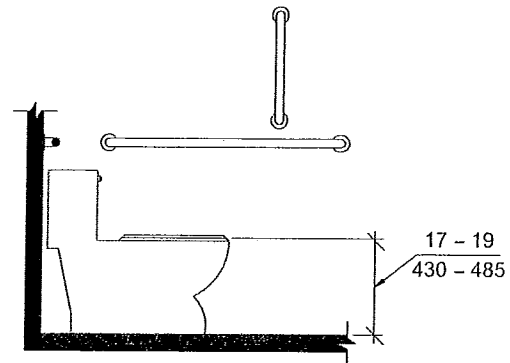
**604.4 Height.** The height of water closet seats shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the floor, measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

**EXCEPTION:** 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 Section 604.4.

**604.5 Grab Bars.** Grab bars for water closets shall comply with Section 609 and shall be provided in accordance with Sections 604.5.1 and 604.5.2. Grab bars shall be provided on the rear wall and on the side wall closest to the water closet.

**EXCEPTIONS:**

1. Grab bars are not required to be installed in a toilet room for a single occupant, accessed only through a private office and not for common use



**Fig. 604.4**  
Water Closet Height

or public use, provided reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with Section 604.5.

2. In detention or correction facilities, grab bars are not required to be installed in housing or holding cells or rooms that are specially designed without protrusions for purposes of suicide prevention.
3. In Type A units, grab bars are not required to be installed where reinforcement complying with Section 1003.11.4 is installed for the future installation of grab bars.
4. In Type B units located in institutional facilities and assisted living facilities, two swing-up grab bars shall be permitted to be installed in lieu of the rear wall and side wall grab bars. Swing-up grab bars shall comply with Sections 604.5.3 and 609.
5. In a Type B unit, where fixtures are located on both sides of the water closet, a swing-up grab bar complying with Sections 604.5.3 and 609 shall be permitted. The swing-up grab bar shall be installed on the side of the water closet with the 18 inch (455 mm) clearance required by Section 1004.11.3.1.2.

**604.5.1 Fixed Side Wall Grab Bars.** Fixed side-wall grab bars shall be 42 inches (1065 mm) minimum in length, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall. In addition, a vertical grab bar 18 inches (455 mm) minimum in length shall be mounted with the bottom of the bar located between 39 inches (990 mm) and 41 inches (1040 mm) above the floor, and with the center line of the bar located between 39 inches (990 mm) and 41 inches (1040 mm) from the rear wall.

**EXCEPTIONS:**

1. In Type A and Type B units, the vertical grab bar component is not required.

- In a Type B unit, when a side wall is not available for a 42-inch (1065 mm) grab bar, the sidewall grab bar shall be permitted to be 18 inches (455 mm) minimum in length, located 12 inches (305 mm) maximum from the rear wall and extending 30 inches (760 mm) minimum from the rear wall.

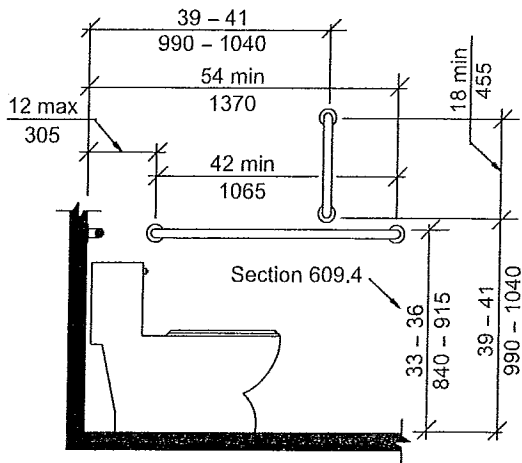


Fig. 604.5.1  
Side Wall Grab Bar for Water Closet

**604.5.2 Rear Wall Grab Bars.** The rear wall grab bar shall be 36 inches (915 mm) minimum in length, and extend from the centerline of the water closet 12 inches (305 mm) minimum on the side closest to the wall, and 24 inches (610 mm) minimum on the transfer side.

**EXCEPTIONS:**

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

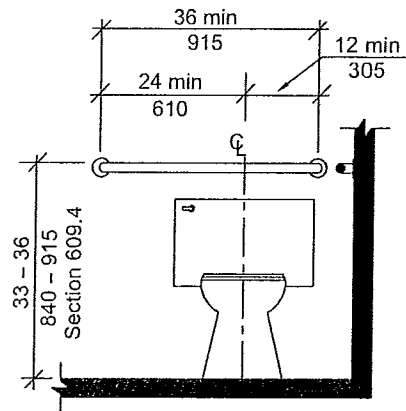


Fig. 604.5.2  
Rear Wall Grab Bar for Water Closet

**604.5.3 Swing-up Grab Bars.** Where swing-up grab bars are installed, a clearance of 18 inches (455 mm) minimum from the centerline of the water closet to any side wall or obstruction shall be provided. A swing-up grab bar shall be installed with the centerline of the grab bar 15 3/4 inches (400 mm) from the centerline of the water closet. Swing-up grab bars shall be 28 inches (710 mm) minimum in length, measured from the wall to the end of the horizontal portion of the grab bar.

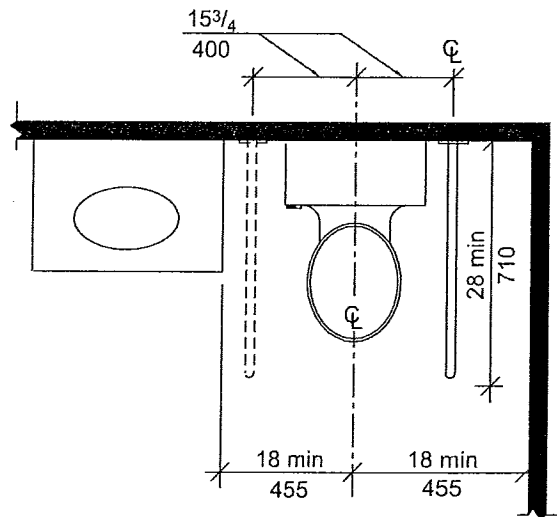


Fig. 604.5.3  
Swing-up Grab Bar for Water Closet

**604.6 Flush Controls.** Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 309. Flush controls shall be located on the open side of the water closet.

**EXCEPTION:** In ambulatory accessible compartments complying with Section 604.9, flush controls shall be permitted to be located on either side of the water closet.

**604.7 Dispensers.** Toilet paper dispensers shall comply with Section 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 floor, and shall not be located behind the grab bars. Dispensers shall not be of a type that control delivery, or do not allow continuous paper flow.

**604.8 Wheelchair Accessible Compartments.**

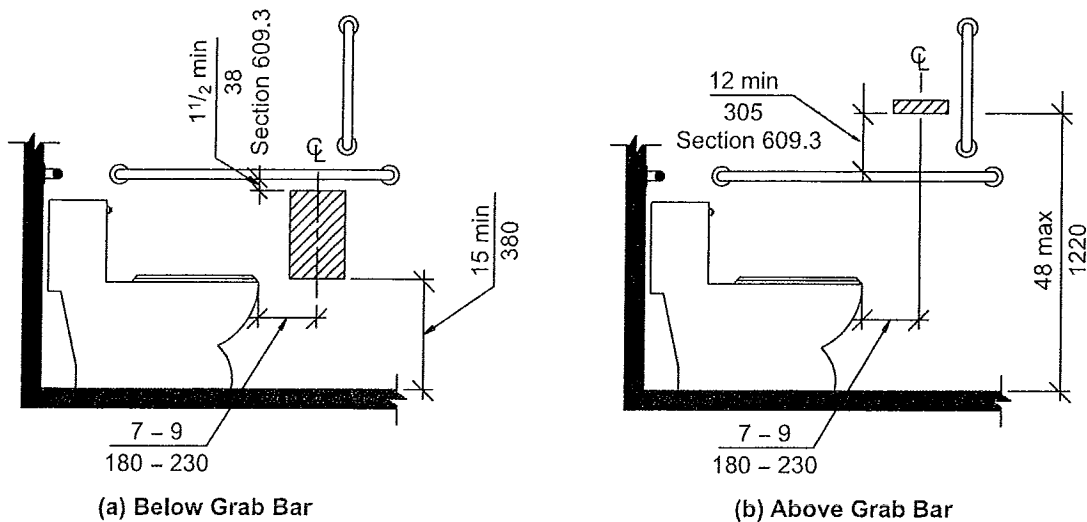
**604.8.1 General.** Wheelchair accessible compartments shall comply with Section 604.8.

**604.8.2 Size.** The minimum area of a wheelchair accessible compartment shall be 60 inches (1525 mm) minimum in width measured perpendicular to the side wall, and 56 inches (1420 mm) minimum in depth for wall hung water closets, and 59 inches (1500 mm) minimum in depth for floor mounted water closets measured perpendicular to the rear wall. The minimum area of a wheelchair accessible compartment for primarily children's use shall be 60 inches (1525 mm) minimum in width measured perpendicular to the side wall, and 59 inches (1500 mm) minimum in depth for wall hung and floor mounted water closets measured perpendicular to the rear wall.

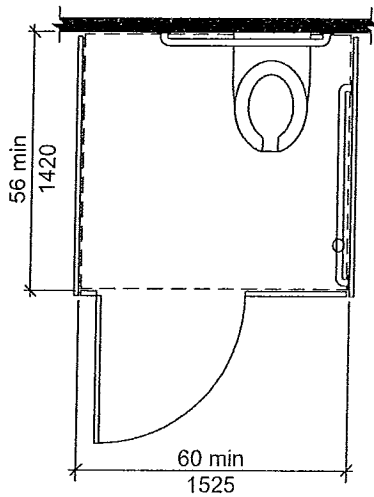
**604.8.3 Doors.** Toilet compartment doors, including door hardware, shall comply with Section 404.1, except if the approach is to the latch side of the compartment door clearance between the door side of the stall and any obstruction shall be 42 inches (1065 mm) minimum. Doors shall be located in the 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 Section 404.2.6 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the required minimum area of the compartment.

**604.8.4 Approach.** Wheelchair accessible compartments shall be arranged for left-hand or right-hand approach to the water closet.

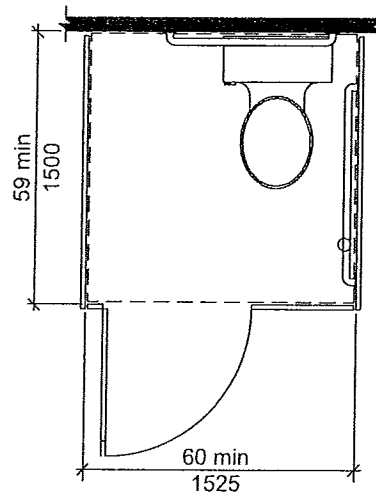
**604.8.5 Toe Clearance.** The front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the floor and extending 6 inches (150 mm) beyond the compartment side face of the partition, exclusive of partition support members. Compartments primarily for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



**Fig. 604.7**  
Dispenser Location



(a) Wall-Hung Water Closet – Adult



(b) Floor-Mounted Water Closet – Adult  
Wall-Hung and  
Floor-Mounted Water Closet – Children

Fig. 604.8.2  
Wheelchair Accessible Toilet Compartments

**EXCEPTIONS:**

1. Toe clearance at the front partition is not required in a compartment greater than 62 inches (1575 mm) in depth with a wall-hung water closet, or greater than 65 inches (1650 mm) in depth with a floor-mounted water closet. In a compartment primarily for children's use, greater than 65 inches (1650 mm) in depth, toe clearance at the front partition is not required.
2. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) in width.

**604.8.6 Grab Bars.** Grab bars shall comply with Section 609. Side wall grab bars complying with Section 604.5.1 located on the wall closest to the water closet, and a rear wall grab bar complying with Section 604.5.2, shall be provided.

**604.9 Ambulatory Accessible Compartments.**

**604.9.1 General.** Ambulatory accessible compartments shall comply with Section 604.9.

**604.9.2 Size.** The minimum area of an ambulatory accessible compartment shall be 60 inches (1525 mm) minimum in depth and 36 inches (915 mm) in width.

**604.9.3 Doors.** Toilet compartment doors, including door hardware, shall comply with

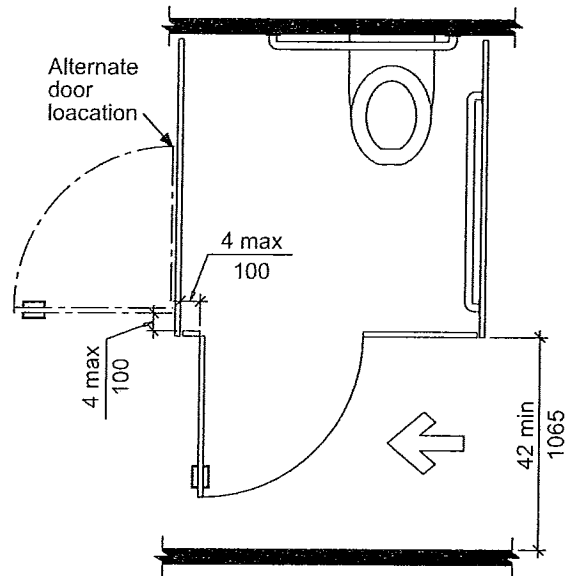


Fig. 604.8.3  
Wheelchair Accessible Compartment Doors

Section 404, except if the approach is to the latch side of the compartment door the 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 Section 404.2.6 shall be placed on both sides of the door near the latch. Compartment doors shall not swing into the required minimum area of the compartment.

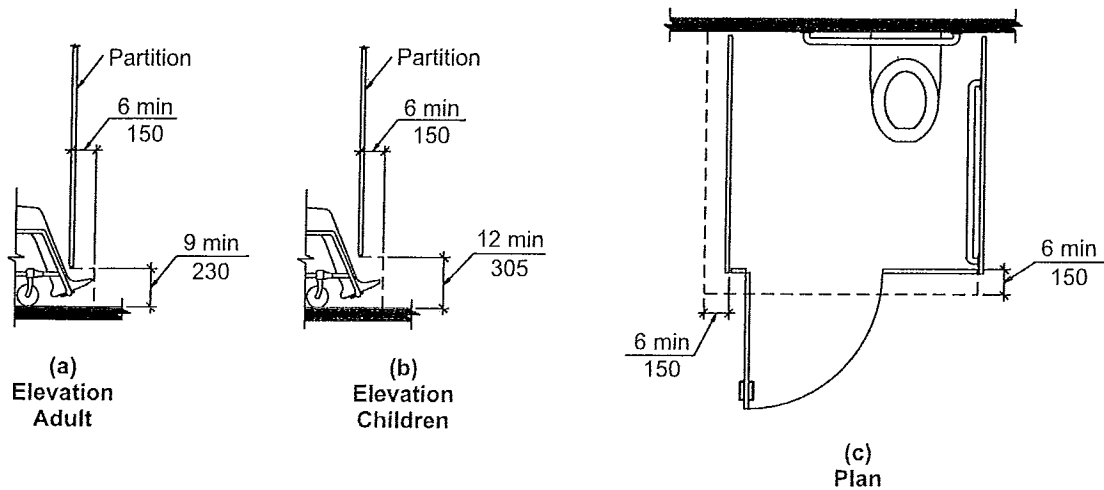


Fig. 604.8.5  
Wheelchair Accessible Compartment Toe Clearance

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

**604.10.1 General.** Accessible water closets and toilet compartments primarily for children's use shall comply with Section 604.10.

**604.10.2 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 to 18 inches (455 mm) maximum from the side wall or partition. Water closets located in ambulatory accessible toilet compartments specified in Section 604.9 shall be located as specified in Section 604.2.

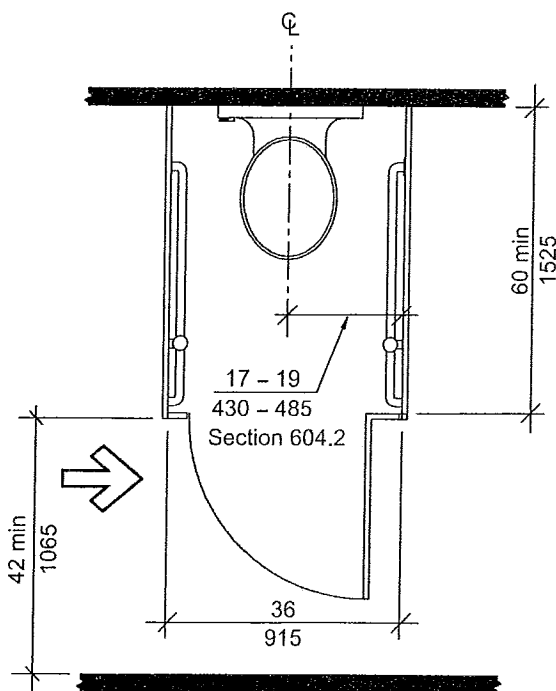


Fig. 604.9  
Ambulatory Accessible Compartment

**604.9.4 Grab Bars.** Grab bars shall comply with Section 609. Side wall grab bars complying with Section 604.5.1 shall be provided on both sides of the compartment.

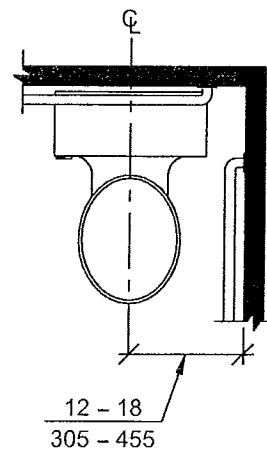
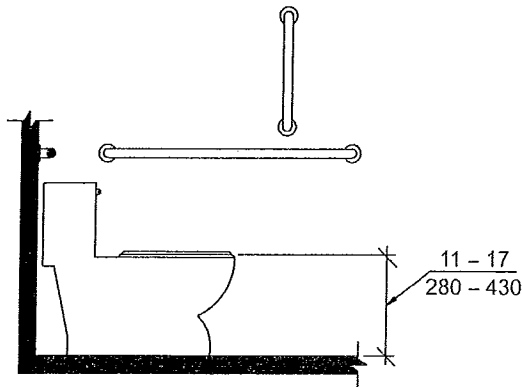


Fig. 604.10.2  
Children's Water Closet Location

**604.10.3 Clearance.** A clearance around a water closet complying with Section 604.3 shall be provided.

**604.10.4 Height.** The height of water closet seats shall be 11 inches (280 mm) minimum and 17 inches (430 mm) maximum above the floor, measured to the top of the seat. Seats shall not be sprung to return to a lifted position.



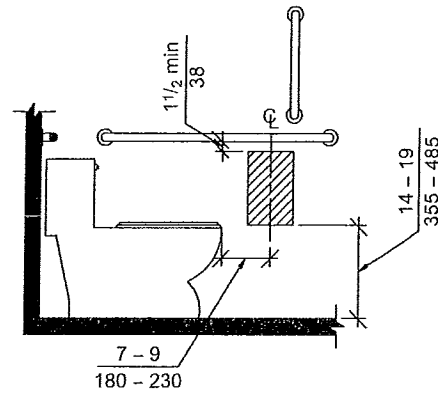
**Fig. 604.10.4**  
Children's Water Closet Height

**604.10.5 Grab Bars.** Grab bars for water closets shall comply with Section 604.5.

**604.10.6 Flush Controls.** Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Sections 309.2 and 309.4 and shall be installed 36 inches (915 mm) maximum above the floor. Flush controls shall be located on the open side of the water closet.

**EXCEPTION:** In ambulatory accessible compartments complying with Section 604.9, flush controls shall be permitted to be located on either side of the water closet.

**604.10.7 Dispensers.** Toilet paper dispensers shall comply with Section 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 center line of the dispenser. The outlet of the dispenser shall be 14 inches (355 mm) minimum and 19 inches (485 mm) maximum above the floor. There shall be a clearance of 1 1/2 inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that control delivery or do not allow continuous paper flow.



**Fig. 604.10.7**  
Children's Dispenser Location

**604.10.8 Toilet Compartments.** Toilet compartments shall comply with Sections 604.8 and 604.9, as applicable.

**604.11 Coat Hooks and Shelves.** Coat hooks provided within toilet compartments shall be 48 inches (1220 mm) maximum above the floor. Shelves shall be 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the floor.

**605 Urinals**

**605.1 General.** Accessible urinals shall comply with Section 605.

**605.2 Height.** Urinals shall be of the stall type or shall be of the wall hung type with the rim at 17 inches (430 mm) maximum above the floor.

**605.3 Clear Floor Space.** A clear floor space complying with Section 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 Section 309.

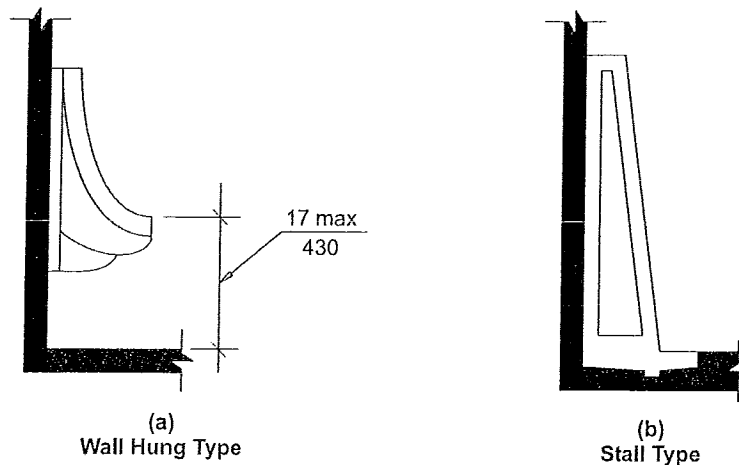
**606 Lavatories and Sinks**

**606.1 General.** Accessible lavatories and sinks shall comply with Section 606.

**606.2 Clear Floor Space.** A clear floor space complying with Section 305.3, positioned for forward approach, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. The dip of the overflow shall not be considered in determining knee and toe clearances.

**EXCEPTIONS:**

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



**Fig. 605.2**  
Height of Urinals

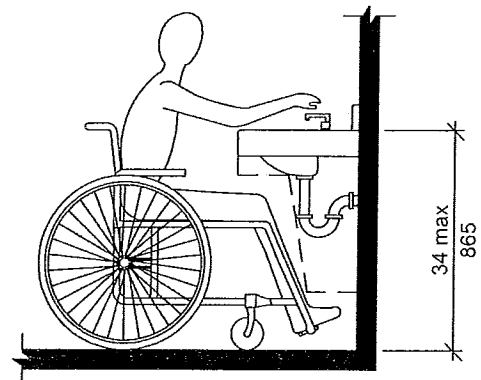
2. The requirement for knee and toe clearance shall not apply to a lavatory in a toilet and bathing facility for a single occupant, accessed only through a private office and not for common use or public use.
3. A knee clearance of 24 inches (610 mm) minimum above the floor shall be permitted at lavatories and sinks used primarily by children ages 6 through 12 where the rim or counter surface is 31 inches (785 mm) maximum above the floor.
4. A parallel approach complying with Section 305 shall be permitted at lavatories and sinks used primarily by children ages 5 and younger.
5. The requirement for knee and toe clearance shall not apply to more than one bowl of a multibowl sink.
6. A parallel approach shall be permitted at wet bars.

**606.3 Height.** The front of lavatories and sinks shall be 34 inches (865 mm) maximum above the floor, measured to the higher of the rim or counter surface.

**EXCEPTION:** A lavatory in a toilet and bathing facility 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 Section 606.3.

**606.4 Faucets.** Faucets shall comply with Section 309. Hand-operated metering faucets shall remain open for 10 seconds minimum.

**606.5 Lavatories with Enhanced Reach Range.** Where enhanced reach range is required at lavato-



**Fig. 606.3**  
Height of Lavatories and Sinks

ries, faucets and soap dispenser controls shall have a reach depth of 11 inches (280 mm) maximum or, if automatic, shall be activated within a reach depth of 11 inches (280 mm) maximum. Water and soap flow shall be provided with a reach depth of 11 inches (280 mm) maximum.

**EXCEPTION:** In Type A and Type B units, reach range for lavatory faucets and soap dispensers is not required.

**606.6 Exposed Pipes and Surfaces.** Water supply and drainpipes 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.

**606.7 Operable Parts.** Operable parts on towel dispensers and hand dryers shall comply with Table 606.7.

**Table 606.7**  
**Maximum Reach Depth and Height**

<b>Maximum Reach Depth</b>	5 inch (13 mm)	2 inches (50 mm)	5 inches (125 mm)	6 inches (150 mm)	9 inches (230 mm)	11 inches (280 mm)
<b>Maximum Reach Height</b>	48 inch (1220 mm)	46 inch (1170 mm)	42 inches (1065 mm)	40 inches (1015 mm)	36 inches (915 mm)	34 inches (865 mm)

**607 Bathtubs**

**607.1 General.** Accessible bathtubs shall comply with Section 607.

**607.2 Clearance.** A clearance in front of bathtubs extending the length of the bathtub and 30 inches (760 mm) minimum in depth shall be provided. 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.

**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 Section 610.

**607.4 Grab Bars.** Grab bars shall comply with Section 609 and shall be provided in accordance with Section 607.4.1 or 607.4.2.

**EXCEPTIONS:**

1. Grab bars shall not be required to be installed in a bathing facility for a single occupant accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with Section 607.4.
2. In Type A units, grab bars are not required to be installed where reinforcement complying

with Section 1003.11.9 is installed for the future installation of grab bars.

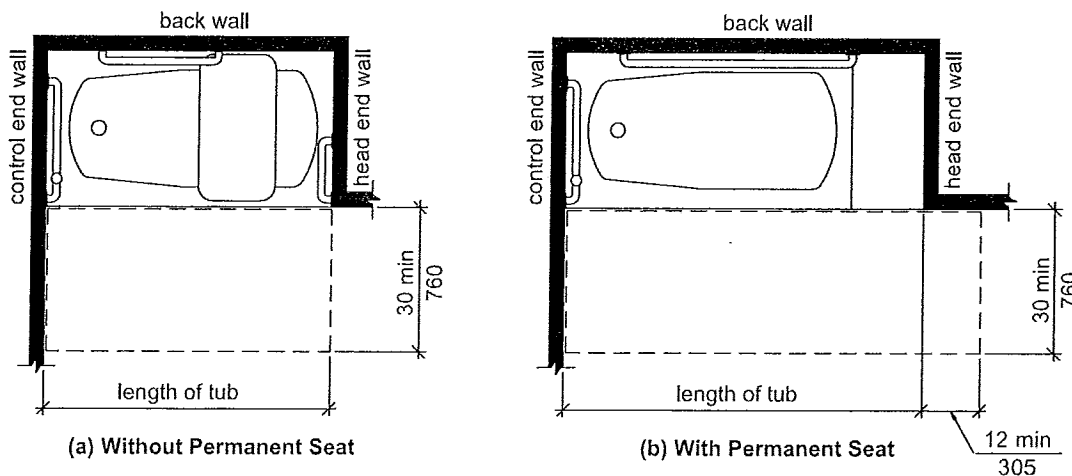
**607.4.1 Bathtubs with Permanent Seats.** For bathtubs with permanent seats, grab bars complying with Section 607.4.1 shall be provided.

**607.4.1.1 Back Wall.** Two horizontal grab bars shall be provided on the back wall, one complying with Section 609.4 and the other 9 inches (230 mm) above the rim of the bathtub. Each grab bar shall be located 15 inches (380 mm) maximum from the head end wall and extend to 12 inches (305 mm) maximum from the control end wall.

**607.4.1.2 Control End Wall.** Control end wall grab bars shall comply with Section 607.4.1.2.

**EXCEPTION:** An L-shaped continuous grab bar of equivalent dimensions and positioning shall be permitted to serve the function of separate vertical and horizontal grab bars.

**607.4.1.2.1 Horizontal Grab Bar.** A horizontal grab bar 24 inches (610 mm) minimum in length shall be provided on the control end wall at the front edge of the bathtub.



**Fig. 607.2**  
**Clearance for Bathtubs**

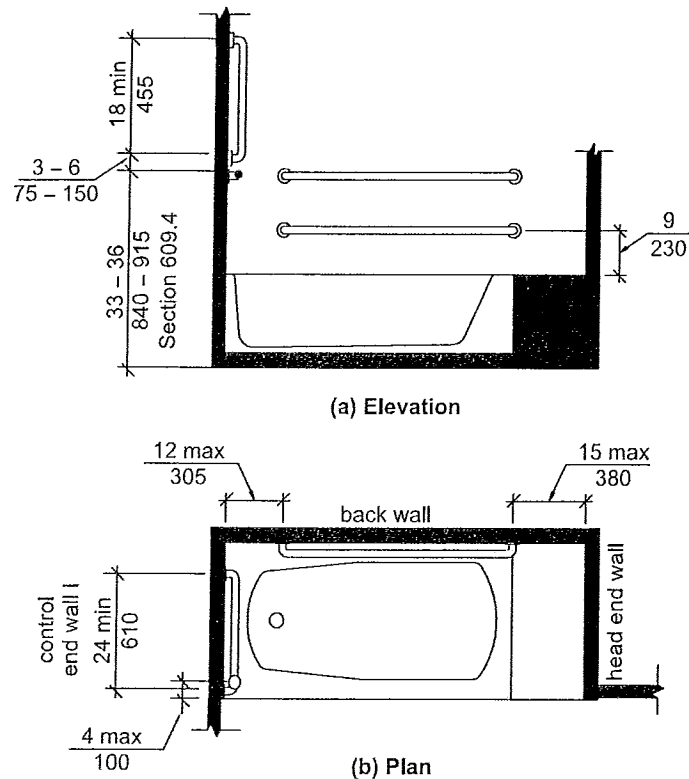


Fig. 607.4.1  
Grab Bars for Bathtubs with Permanent Seats

**607.4.1.2.2 Vertical Grab Bar.** A vertical grab bar 18 inches (455 mm) minimum in length shall be provided on the control end wall 3 inches (75 mm) minimum to 6 inches (150 mm) maximum above the horizontal grab bar, and 4 inches (100 mm) maximum inward from the front edge of the bathtub.

**607.4.2 Bathtubs without Permanent Seats.** For bathtubs without permanent seats, grab bars complying with Section 607.4.2 shall be provided.

**607.4.2.1 Back Wall.** Two horizontal grab bars shall be provided on the back wall, one complying with Section 609.4 and the other 9 inches (230 mm) above the rim of the bathtub. Each grab bar shall be 24 inches (610 mm) minimum in length, located 24 inches (610 mm) maximum from the head end wall and extend to 12 inches (305 mm) maximum from the control end wall.

**607.4.2.2 Control End Wall.** Control end wall grab bars shall comply with Section 607.4.2.2.

**EXCEPTION:** An L-shaped continuous grab bar of equivalent dimensions and positioning shall be permitted to serve the function of separate vertical and horizontal grab bars.

**607.4.2.2.1 Horizontal Grab Bar.** A horizontal grab bar 24 inches (610 mm) minimum in length shall be provided on the control end wall beginning near the front edge of the bathtub and extend toward the inside corner of the bathtub.

**607.4.2.2.2 Vertical Grab Bar.** A vertical grab bar 18 inches (455 mm) minimum in length shall be provided on the control end wall 3 inches (76 mm) minimum to 6 inches (150 mm) maximum above the horizontal grab bar, and 4 inches (102 mm) maximum inward from the front edge of the bathtub.

**607.4.2.3 Head End Wall.** A horizontal grab bar 12 inches (305 mm) minimum in length shall be provided on the head end wall at the front edge of the bathtub.

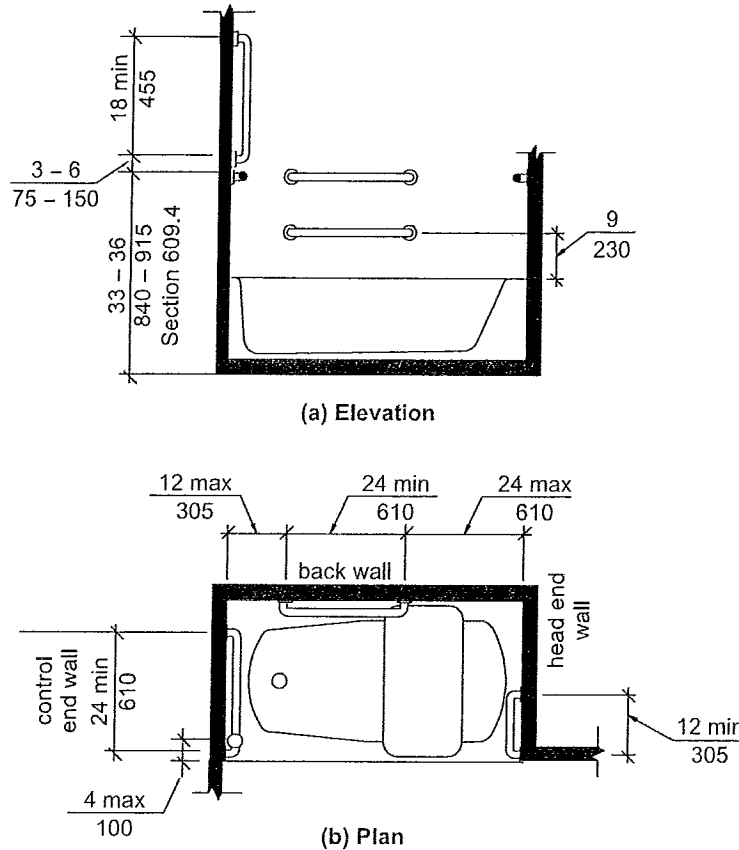


Fig. 607.4.2  
Grab Bars for Bathtubs without Permanent Seats

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

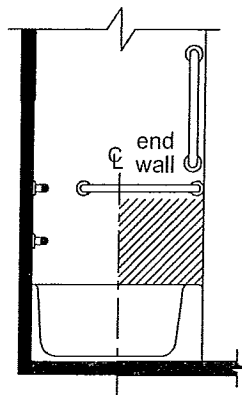


Fig. 607.5  
Location of Bathtub Controls

**607.6 Hand Shower.** A hand shower with a hose 59 inches (1500 mm) minimum in length, that can be used as both a fixed shower head and as a hand shower, shall be provided. The hand shower shall have a control with a nonpositive shut-off feature. An adjustable-height hand shower mounted on a vertical bar shall be installed so as to not obstruct the use of grab bars.

**607.7 Bathtub Enclosures.** Enclosures for bathtubs shall not obstruct controls or transfer from wheelchairs onto bathtub seats or into bathtubs. Enclosures on bathtubs shall not have tracks installed on the rim of the bathtub.

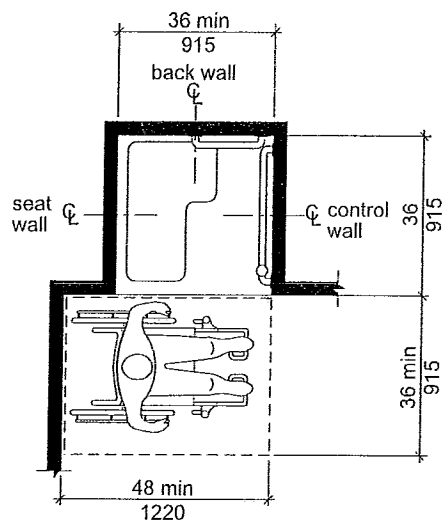
**607.8 Water Temperature.** Bathtubs shall deliver water that is 120 degrees F (49 degrees C) maximum.

**608 Shower Compartments**

**608.1 General.** Accessible shower compartments shall comply with Section 608.

## 608.2 Size and Clearances.

**608.2.1 Transfer-Type Shower Compartments.** Transfer-type shower compartments shall have a clear inside dimension of 36 inches (915 mm) in width and 36 inches (915 mm) in depth, measured at the center point of opposing sides. An entry 36 inches (915 mm) minimum in width shall be provided. A clearance of 48 inches (1220 mm) minimum in length measured perpendicular from the control wall, and 36 inches (915 mm) minimum in depth shall be provided adjacent to the open face of the compartment.

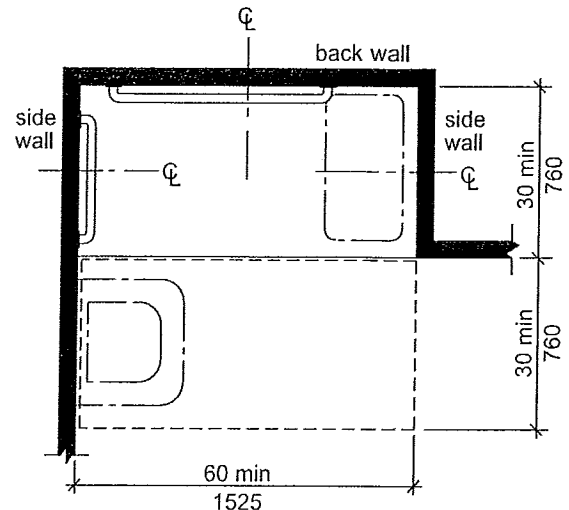


Note: inside finished dimensions measured at the center points of opposing sides

Fig. 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 have a clear inside dimension of 60 inches (1525 mm) minimum in width and 30 inches (760 mm) minimum in depth, measured at the center point of opposing sides. An entry 60 inches (1525 mm) minimum in width shall be provided. A clearance of 60 inches (1525 mm) minimum in length adjacent to the 60-inch (1525 mm) width of the open face of the shower compartment, and 30 inches (760 mm) minimum in depth, shall be provided. A lavatory complying with Section 606 shall be permitted at the end of the clearance opposite the shower compartment side where shower controls are positioned. Where shower controls are located on the back wall and

no seat is provided, the lavatory shall be permitted at either end of the clearance.



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

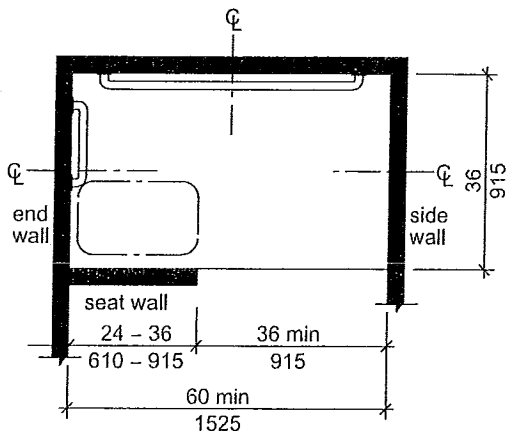
Fig. 608.2.2  
Standard Roll-in-Type Shower Compartment  
Size and Clearance

**608.2.3 Alternate Roll-in-Type Shower Compartments.** Alternate roll-in shower compartments shall have a clear inside dimension of 60 inches (1525 mm) minimum in width, and 36 inches (915 mm) in depth, measured at the center point of opposing sides. An entry 36 inches (915 mm) minimum in width shall be provided at one end of the 60-inch (1525 mm) width of the compartment. A seat wall, 24 inches (610 mm) minimum and 36 inches (915 mm) maximum in length, shall be provided on the entry side of the compartment.

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

### EXCEPTIONS:

- Grab bars are not required to be installed in a shower facility for a single occupant, accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with Section 608.3.
- In Type A units, grab bars are not required to be installed where reinforcement complying with Section 1003.11.9 is installed for the future installation of grab bars.



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

Fig. 608.2.3

Alternate Roll-in-Type Shower Compartment Size and Clearance

**608.3.1 Transfer-Type Showers.** Grab bars for transfer type showers shall comply with Section 608.3.1.

**608.3.1.1 Horizontal Grab Bars.** Horizontal grab bars shall be provided across the control wall and on the back wall to a point 18 inches (455 mm) from the control wall.

**608.3.1.2 Vertical Grab Bar.** A vertical grab bar 18 inches (455 mm) minimum in length shall be provided on the control end wall 3 inches (75 mm) minimum to 6 inches (150 mm) maximum above the horizontal grab bar, and 4 inches (100 mm) maximum inward from the front edge of the shower.

**608.3.1.3 Grab Bar Configuration.** Grab bars complying with Sections 608.3.1.1 and 608.3.1.2 shall be permitted to be separate bars, a single piece bar, or combination thereof.

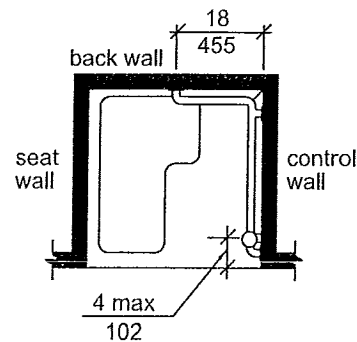


Fig. 608.3.1

Grab Bars in Transfer-Type Showers

**608.3.2 Standard Roll-in-Type Showers.** In standard roll-in type showers, grab bars shall be provided on three walls of showers without seats. Where a seat is provided in a standard roll-in type shower, grab bars shall be provided on the back wall and on the wall opposite the seat. Grab bars shall not be provided above the seat. Grab bars shall be 6 inches (150 mm) maximum from the adjacent wall.

**608.3.3 Alternate Roll-in-Type Showers.** In alternate roll-in type showers, grab bars shall be provided on the back wall and the end wall adjacent to the seat. Grab bars shall not be provided above the seat. Grab bars shall be 6 inches (150 mm) maximum from the adjacent wall.

**608.4 Seats.** A folding or nonfolding seat shall be provided in transfer-type shower compartments. A seat shall be provided in an alternate roll-in-type shower compartment. In standard and alternate roll-in-type showers where a seat is provided, if the seat extends over the minimum clear inside dimension required by Section 608.2.2 or 608.2.3, the seat shall be a folding seat. Seats shall comply with Section 610.

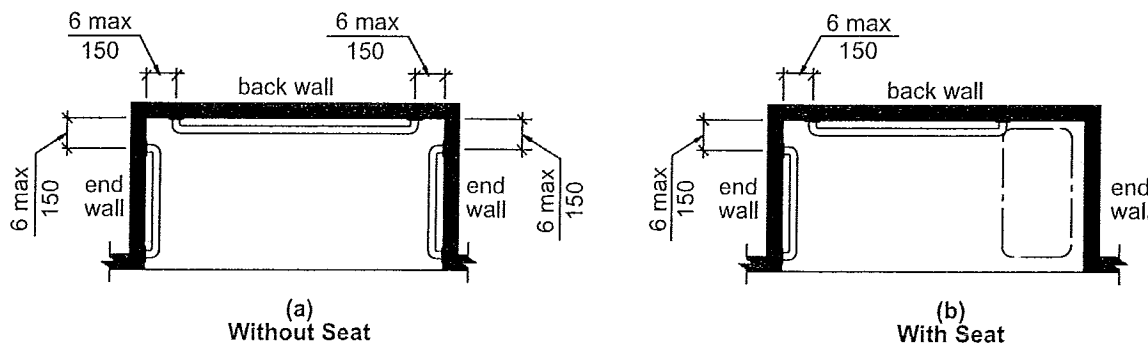


Fig. 608.3.2

Grab Bars in Standard Roll-in-Type Showers

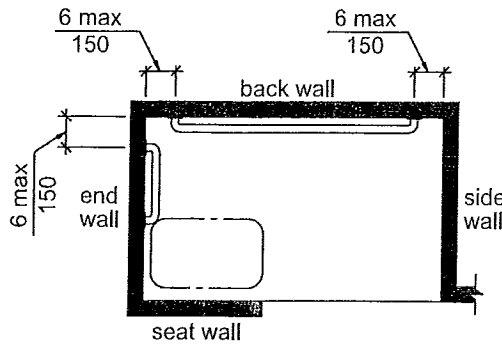


Fig. 608.3.3  
Grab Bars in Alternate Roll-in-Type Showers

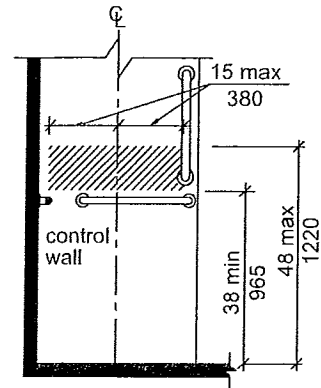


Fig. 608.5.1  
Transfer-Type Shower  
Controls and Handshowers Location

**EXCEPTIONS:**

1. A shower seat is not required to be installed in a shower facility for a single occupant, accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of a shower seat complying with Section 608.4.
2. In Type A units, a shower seat is not required to be installed where reinforcement complying with Section 1003.11.9 is installed for the future installation of a shower seat.

**608.5 Controls and Hand Showers.** Controls and hand showers shall comply with Sections 608.5 and 309.4.

**608.5.1 Transfer-Type Showers.** In transfer-type showers, the controls and hand shower shall be located on the control wall opposite the seat, 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor, within 15 inches (380 mm), left or right, of the centerline of the seat.

**608.5.2 Standard Roll-in Showers.** In standard roll-in showers, the controls and hand shower shall be located 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor. In standard roll-in showers with seats, the controls and hand shower shall be located on the back wall, no more than 27 inches (685 mm) maximum from the end wall behind the seat.

**608.5.3 Alternate Roll-in Showers.** In alternate roll-in showers, the controls and hand shower shall be located 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor. In alternate roll-in showers with controls and hand shower located on the end wall adjacent to the seat, the controls and hand shower shall be 27 inches (685 mm) maximum from the seat wall. In alternate roll-in showers with the controls and hand shower located on the

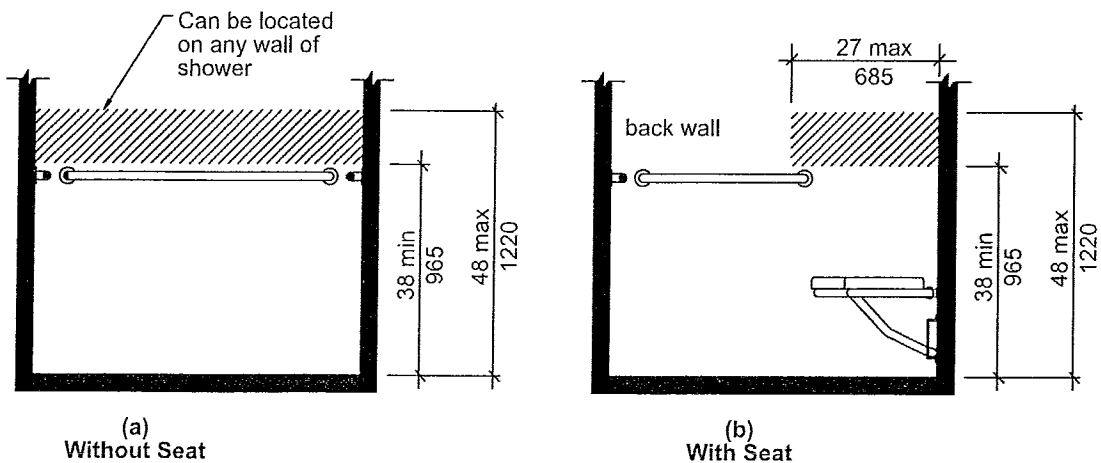


Fig. 608.5.2  
Standard Roll-in-Type Shower Control and Handshower Location

back wall opposite the seat, the controls and hand shower shall be located within 15 inches (380 mm), left or right, of the centerline of the seat.

**EXCEPTION:** A fixed shower head with the controls and shower head located on the back wall opposite the seat shall be permitted.

**608.6 Hand Showers.** A hand shower with a hose 59 inches (1500 mm) minimum in length, that can be used both as a fixed shower head and as a hand shower, shall be provided. The hand shower shall have a control with a nonpositive shut-off feature. An adjustable-height shower head mounted on a vertical bar shall be installed so as to not obstruct the use of grab bars.

**EXCEPTION:** A fixed shower head shall be permitted in lieu of a hand shower where the scoping provisions of the administrative authority require a fixed shower head.

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

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

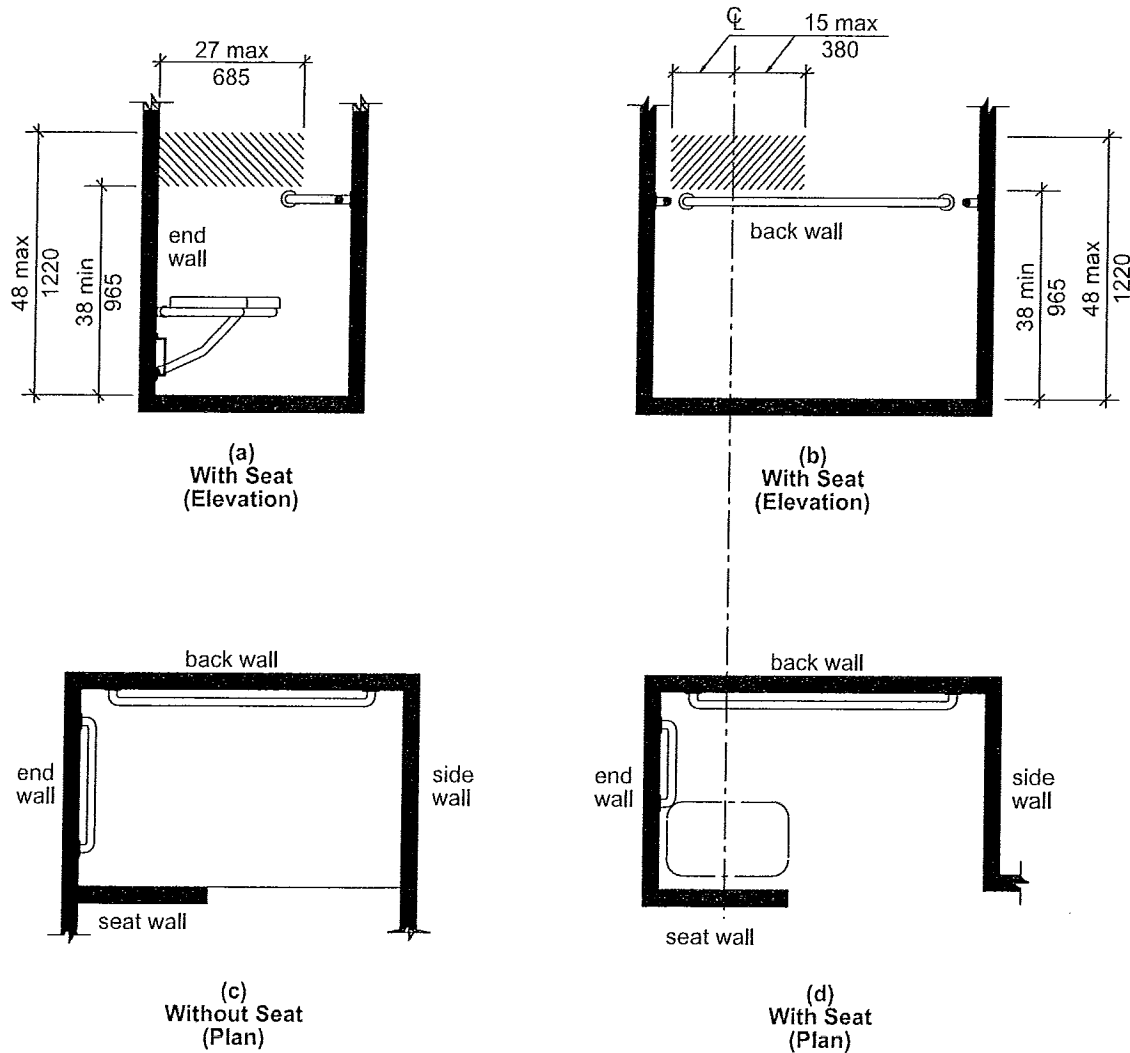


Fig. 608.5.3  
Alternate Roll-in-Type Shower Control and Handshower Location

**608.8 Shower Enclosures.** Shower compartment enclosures for shower compartments shall not obstruct controls or obstruct transfer from wheelchairs onto shower seats.

**608.9 Water Temperature.** Showers shall deliver water that is 120 degrees F (49 degrees C) maximum.

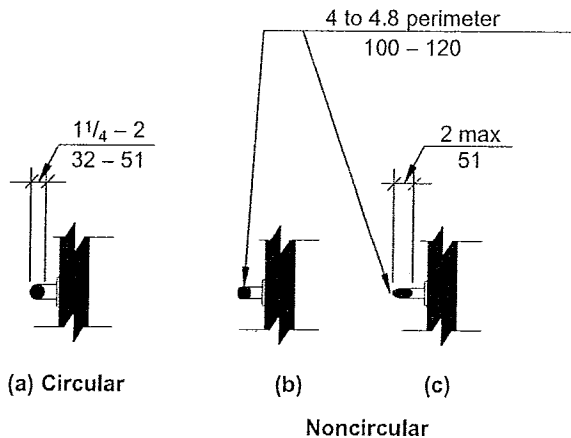
**609 Grab Bars**

**609.1 General.** Grab bars in accessible toilet or bathing facilities shall comply with Section 609.

**609.2 Cross Section.** Grab bars shall have a cross section complying with Section 609.2.1 or 609.2.2.

**609.2.1 Circular Cross Section.** Grab bars with a circular cross section shall have an outside diameter of 1 1/4 inch (32 mm) minimum and 2 inches (51 mm) maximum.

**609.2.2 Noncircular Cross Section.** Grab bars with a noncircular cross section shall have a cross section dimension of 2 inches (51 mm) maximum, and a perimeter dimension of 4 inches (102 mm) minimum and 4.8 inches (122 mm) maximum.



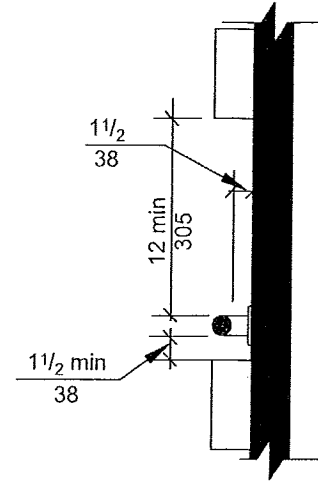
**Fig. 609.2**  
Size of Grab Bars

**609.3 Spacing.** The space between the wall and the grab bar shall be 1 1/2 inches (38 mm). The space between the grab bar and projecting objects below and at the ends of the grab bar shall be 1 1/2 inches (38 mm) minimum. The space between the grab bar and projecting objects above the grab bar shall be 12 inches (305 mm) minimum.

**EXCEPTIONS:**

1. The space between the grab bars and shower controls, shower fittings, and other grab bars above the grab bar shall be permitted to be 1 1/2 inches (38 mm) minimum.

2. Swing-up grab bars shall not be required to comply with Section 609.3.



**Fig. 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 floor measured to the top of the gripping surface. At water closets primarily for children's use complying with Section 604.10, grab bars shall be installed in a horizontal position 18 inches (455 mm) minimum to 27 inches (685 mm) maximum above the floor measured to the top of the gripping surface.

**EXCEPTIONS:**

1. The lower grab bar on the back wall of a bathtub required by Section 607.4.1.1 or 607.4.2.1.
2. Vertical grab bars required by Sections 604.5.1, 607.4.1.2.2, 607.4.2.2.2, and 608.3.1.2.

**609.5 Surface Hazards.** Grab bars, and any wall or other surfaces adjacent to grab bars, shall be free of sharp or abrasive elements. Edges shall be rounded.

**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 locations specified in this standard and does not obstruct the clear floor space.

**609.8 Structural Strength.** Allowable stresses shall not be exceeded for materials used where 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 accessible bathtubs and shower compartments shall comply with Section 610.

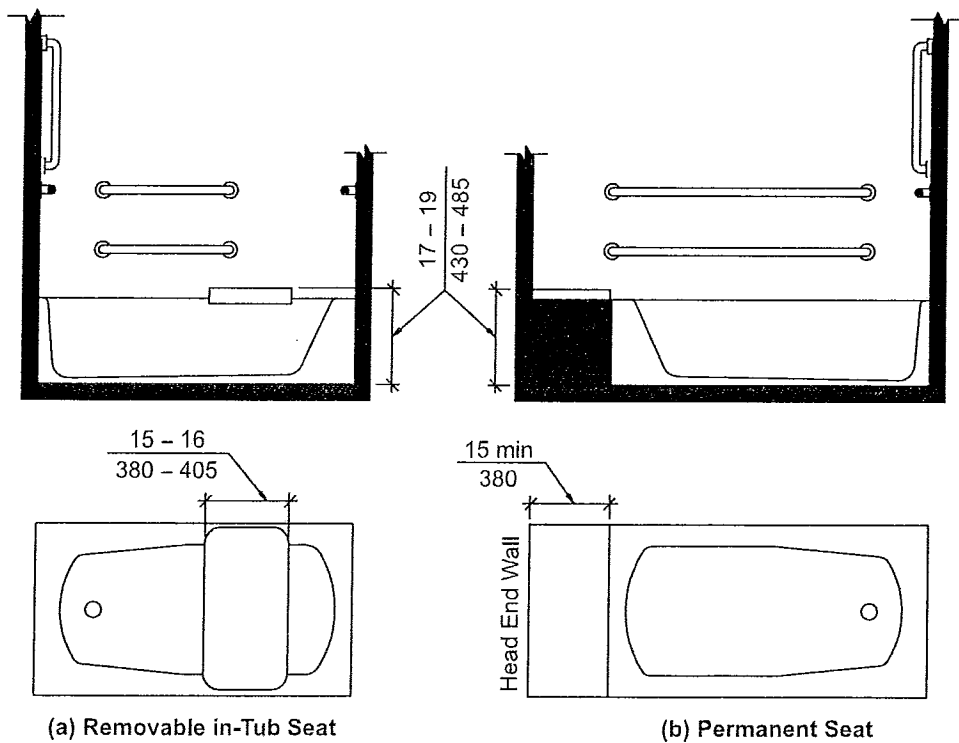
**610.2 Bathtub Seats.** The height of bathtub seats shall be 17 inches (430 mm) minimum to 19 inches (485 mm) maximum above the bathroom floor, measured to the top of the seat. Removable in-tub seats shall be 15 inches (380 mm) minimum and 16 inches (405 mm) maximum in depth. Removable in-tub seats shall be capable of secure placement. Permanent seats shall be 15 inches (380 mm) minimum in depth and shall extend from the back wall to or beyond the outer edge of the bathtub. Permanent seats shall be positioned at the head end of the bathtub.

**610.3 Shower Compartment Seats.** Where a seat is provided in a standard roll-in shower compartment, it shall be a folding type and shall be on the wall adjacent to the controls. The height of the seat shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom floor, measured to the top of the seat. In transfer-type and alternate roll-in-type showers, the seat shall extend along the seat wall to a point within 3 inches (75 mm) of the compartment entry. In stan-

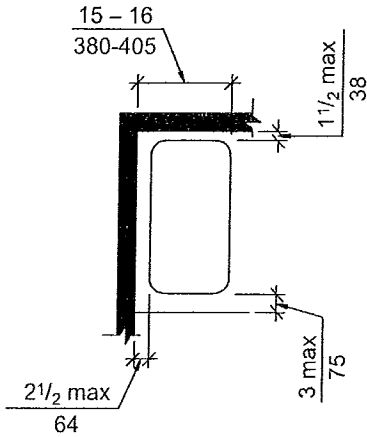
standard roll-in-type showers, the seat shall extend from the control wall to a point within 3 inches (75 mm) of the compartment entry. Seats shall comply with Section 610.3.1 or 610.3.2.

**610.3.1 Rectangular Seats.** The rear edge of a rectangular seat shall be 2½ inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum to 16 inches (405 mm) maximum from the seat wall. The side edge of the seat shall be 1½ inches (38 mm) maximum from the back wall of a transfer-type shower and 1½ inches (38 mm) maximum from the control wall of a roll-in-type shower.

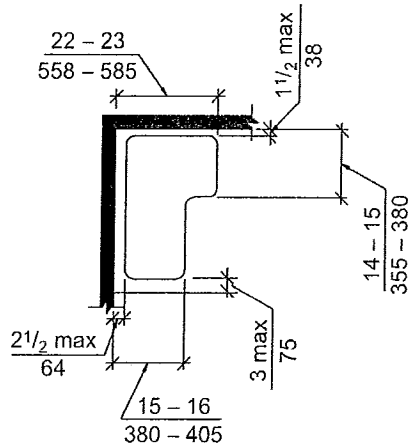
**610.3.2 L-Shaped Seats.** The rear edge of an L-shaped seat shall be 2½ inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum to 16 inches (405 mm) maximum from the seat wall. The rear edge of the “L” portion of the seat shall be 1½ inches (38 mm) maximum from the wall and the front 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 (585 mm) maximum from the main seat wall.



**Fig. 610.2**  
**Bathtub Seats**



**Fig. 610.3.1**  
Rectangular Shower Compartment Seat



**Fig. 610.3.2**  
L-Shaped Shower Compartment Seat

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

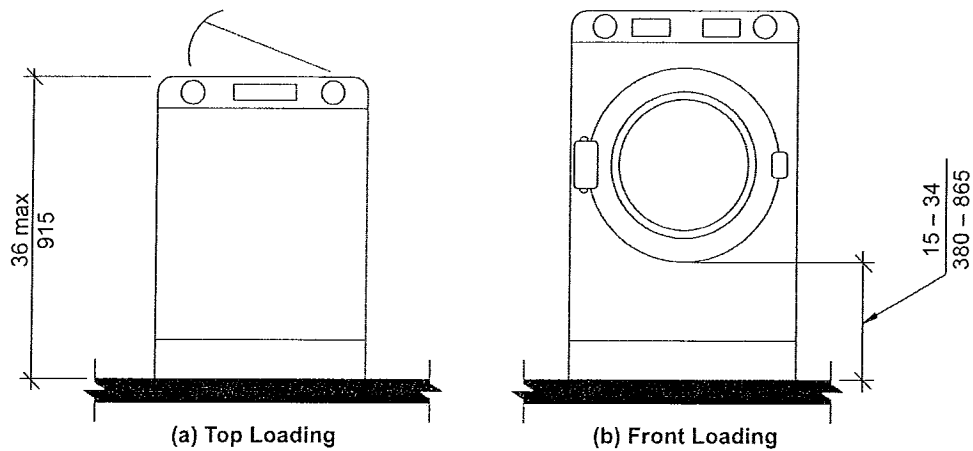
**611 Washing Machines and Clothes Dryers**

**611.1 General.** Accessible washing machines and clothes dryers shall comply with Section 611.

**611.2 Clear Floor Space.** A clear floor space complying with Section 305, positioned for parallel approach, shall be provided. The clear floor space shall be centered on the appliance.

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

**611.4 Height.** Top loading machines shall have the door to the laundry compartment 36 inches (915 mm) maximum above the floor. Front loading machines shall have the bottom of the opening to the laundry compartment 15 inches (380 mm) minimum and 34 inches (865 mm) maximum above the floor.



**Fig. 611.4**  
Height of Laundry Equipment

## **404 Doors and Doorways**

**404.1 General.** Doors and doorways that are part of an accessible route shall comply with Section 404.

**404.2 Manual Doors.** Manual doors and doorways, and manual gates, including ticket gates, shall comply with the requirements of Section 404.2.

**EXCEPTION:** Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with Sections 404.2.6, 404.2.7, and 404.2.8.

**404.2.1 Double-Leaf Doors and Gates.** At least one of the active leaves of doorways with two leaves shall comply with Sections 404.2.2 and 404.2.3.

**404.2.2 Clear Width.** Doorways shall have a clear opening width of 32 inches (815 mm) minimum. Clear opening width of doorways with swinging doors shall be measured between the face of door and stop, with the door open 90 degrees. Openings, doors and doorways without doors more than 24 inches (610 mm) in depth shall provide a clear opening width of 36 inches (915 mm) minimum. There shall be no

projections into the clear opening width lower than 34 inches (865 mm) above the floor. Projections into the clear opening width between 34 inches (865 mm) and 80 inches (2030 mm) above the floor shall not exceed 4 inches (100 mm).

**EXCEPTIONS:**

1. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.

2. In alterations, a projection of  $\frac{5}{8}$  inch (16 mm) maximum into the required clear opening width shall be permitted for the latch side stop.

**404.2.3 Maneuvering Clearances at Doors.** Minimum maneuvering clearances at doors shall comply with Section 404.2.3 and shall include the full clear opening width of the doorway.

**404.2.3.1 Swinging Doors.** Swinging doors shall have maneuvering clearances complying with Table 404.2.3.1.

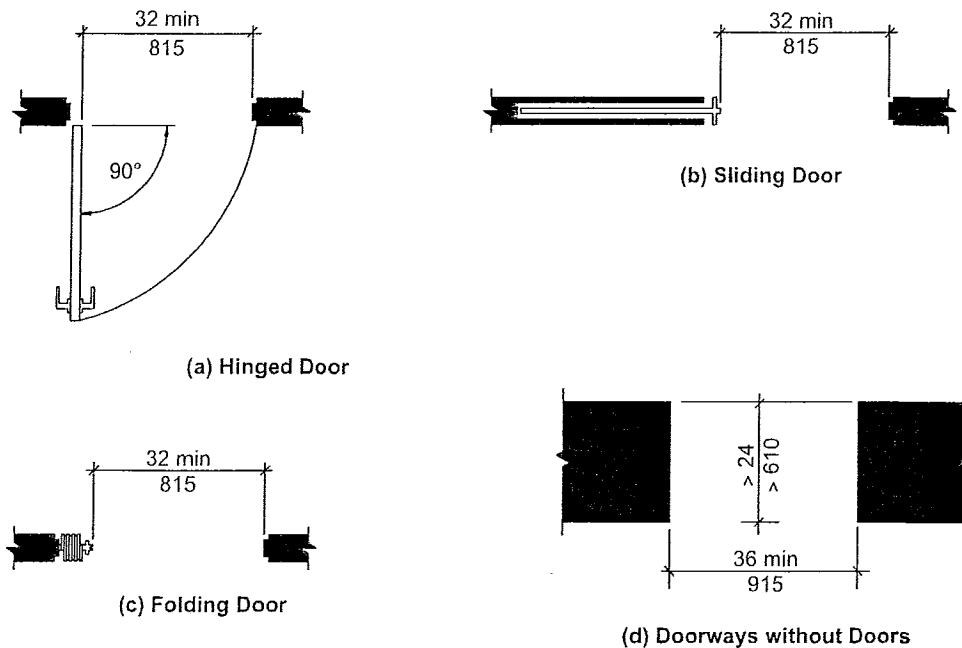


Fig. 404.2.2  
Clear Width of Doorways

Table 404.2.3.1—Maneuvering Clearances at Manual Swinging Doors

TYPE OF USE		MINIMUM MANEUVERING CLEARANCES	
Approach Direction	Door Side	Perpendicular to Doorway	Parallel to Doorway (beyond latch unless noted)
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	48 inches (1220 mm)	0 inches (0 mm) <sup>3</sup>
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Push	42 inches (1065 mm) <sup>1</sup>	22 inches (560 mm) <sup>3,4</sup>
From latch side	Pull	48 inches (1220 mm) <sup>2</sup>	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm) <sup>2</sup>	24 inches (610 mm)

<sup>1</sup>Add 6 inches (150 mm) if closer and latch provided.

<sup>2</sup>Add 6 inches (150 mm) if closer provided.

<sup>3</sup>Add 12 inches (305 mm) beyond latch if closer and latch provided.

<sup>4</sup>Beyond hinge side.

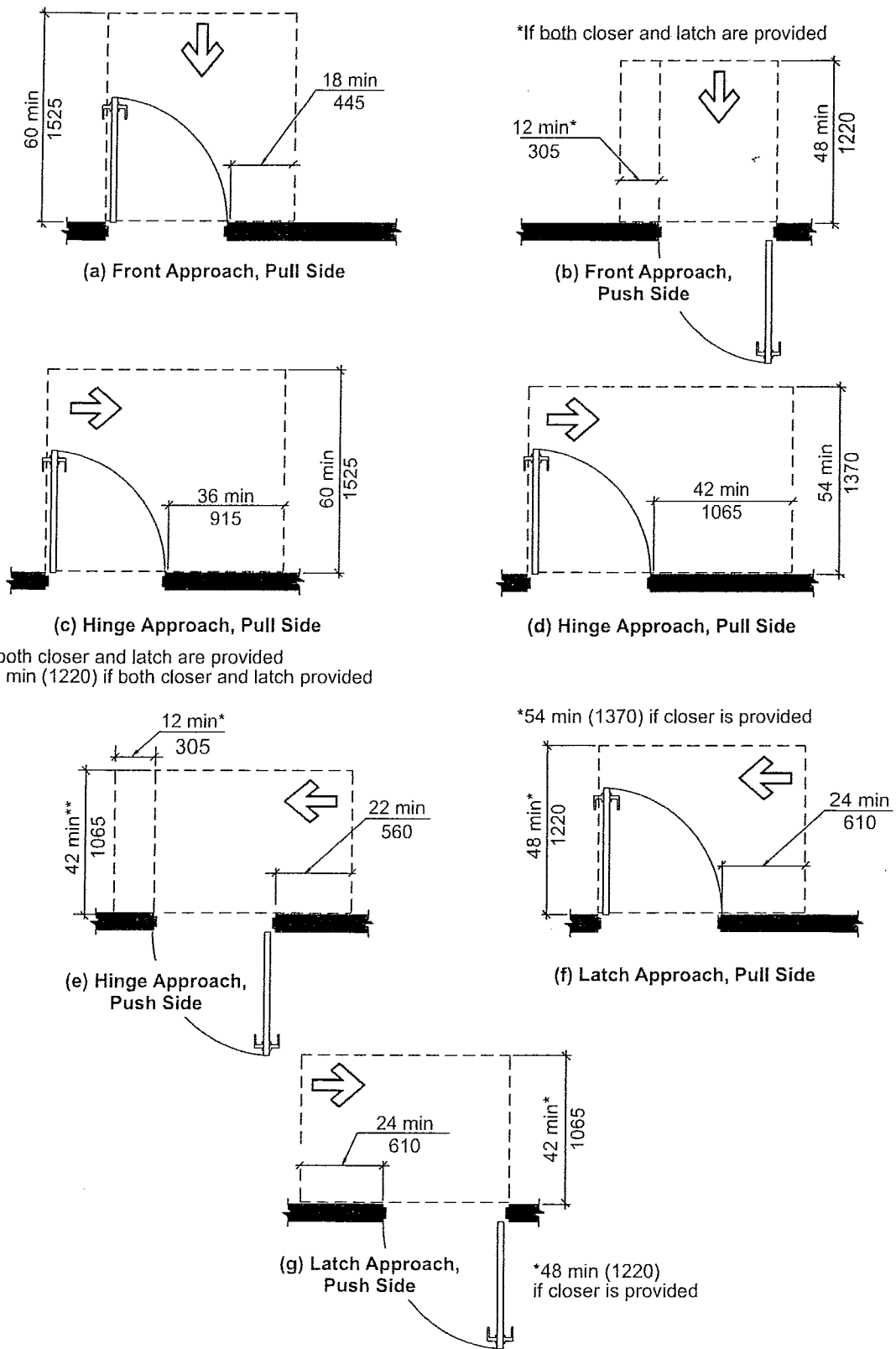


Fig. 404.2.3.1  
 Maneuvering Clearance at Manual Swinging Doors

**404.2.3.2 Sliding and Folding Doors.** Sliding doors and folding doors shall have maneuvering clearances complying with Table 404.2.3.2.

**404.2.3.3 Doorways without Doors.** Doorways without doors that are less than 36 inches (915 mm) in width shall have maneuvering clearances complying with Table 404.2.3.3

**404.2.3.4 Recessed Doors.** Where any obstruction within 18 inches (455 mm) of the latch side of a doorway projects more than 8 inches (205 mm) beyond the face of the door, measured perpendicular to the face of the door, maneuvering clearances for a forward approach shall be provided.

**404.2.3.5 Floor Surface.** Floor surface within the maneuvering clearances shall have a slope not steeper than 1:48 and shall comply with Section 302.

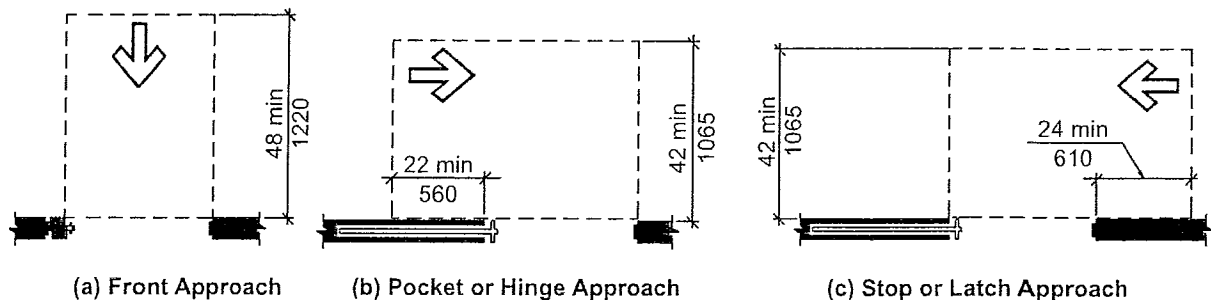
**404.2.4 Thresholds at Doorways.** If provided, thresholds at doorways shall be 1/2 inch (13 mm) maximum in height. Raised thresholds and changes in level at doorways shall comply with Sections 302 and 303.

**EXCEPTION:** Section 404.2.4 shall not apply to existing thresholds or altered thresholds 3/8 inch (19 mm) maximum in height that have a beveled edge on each side with a maximum slope of 1:2 for the height exceeding 3/8 inch (6.4 mm).

**Table 404.2.3.2—Maneuvering Clearances at Sliding and Folding Doors**

Approach Direction	MINIMUM MANEUVERING CLEARANCES	
	Perpendicular to Doorway	Parallel to Doorway (beyond stop or latch side unless noted)
From front	48 inches (1220 mm)	0 inches (0 mm)
From nonlatch side	42 inches (1065 mm)	22 inches (560 mm) <sup>1</sup>
From latch side	42 inches (1065 mm)	24 inches (610 mm)

<sup>1</sup>Beyond pocket or hinge side.



**Fig. 404.2.3.2**  
Maneuvering Clearance at Sliding and Folding Doors

**Table 404.2.3.3—Maneuvering Clearances for Doorways without Doors**

Approach Direction	MINIMUM MANEUVERING CLEARANCES Perpendicular to Doorway
From front	48 inches (1220 mm)
From side	42 inches (1065 mm)

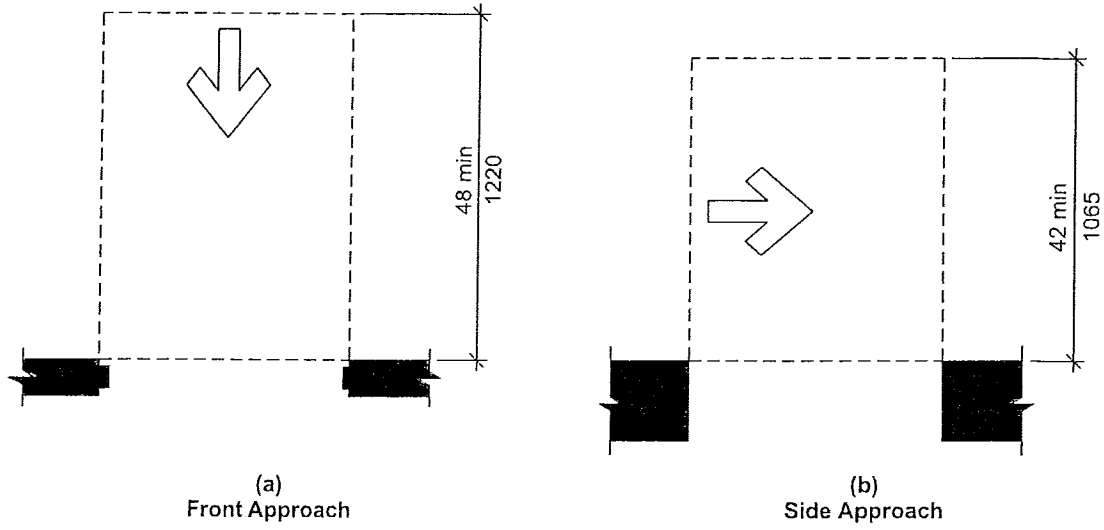


Fig. 404.2.3.3  
Maneuvering Clearance at Doorways without Doors

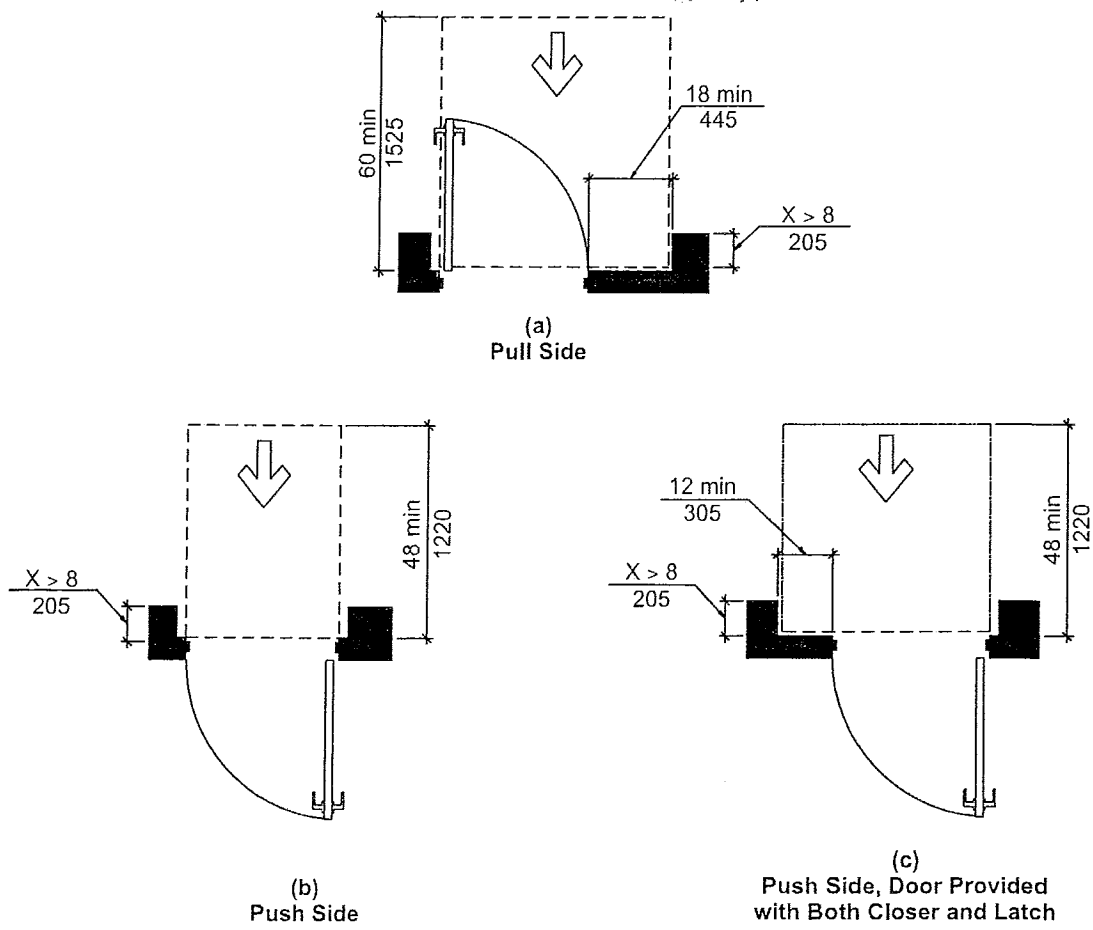


Fig. 404.2.3.4  
Maneuvering Clearance at Recessed Doors

**404.2.5 Two Doors in Series.** Distance between two hinged or pivoted doors in series shall be 48 inches (1220 mm) minimum plus the width of any door swinging into the space. The space between the doors shall provide a turning space complying with Section 304.

**404.2.6 Door Hardware.** Handles, pulls, latches, locks, and other operable parts on accessible doors shall have a shape that is easy to grasp with one hand and does not

require tight grasping, pinching, or twisting of the wrist to operate. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the floor. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.

**EXCEPTION:** Locks used only for security purposes and not used for normal operation are permitted in any location.

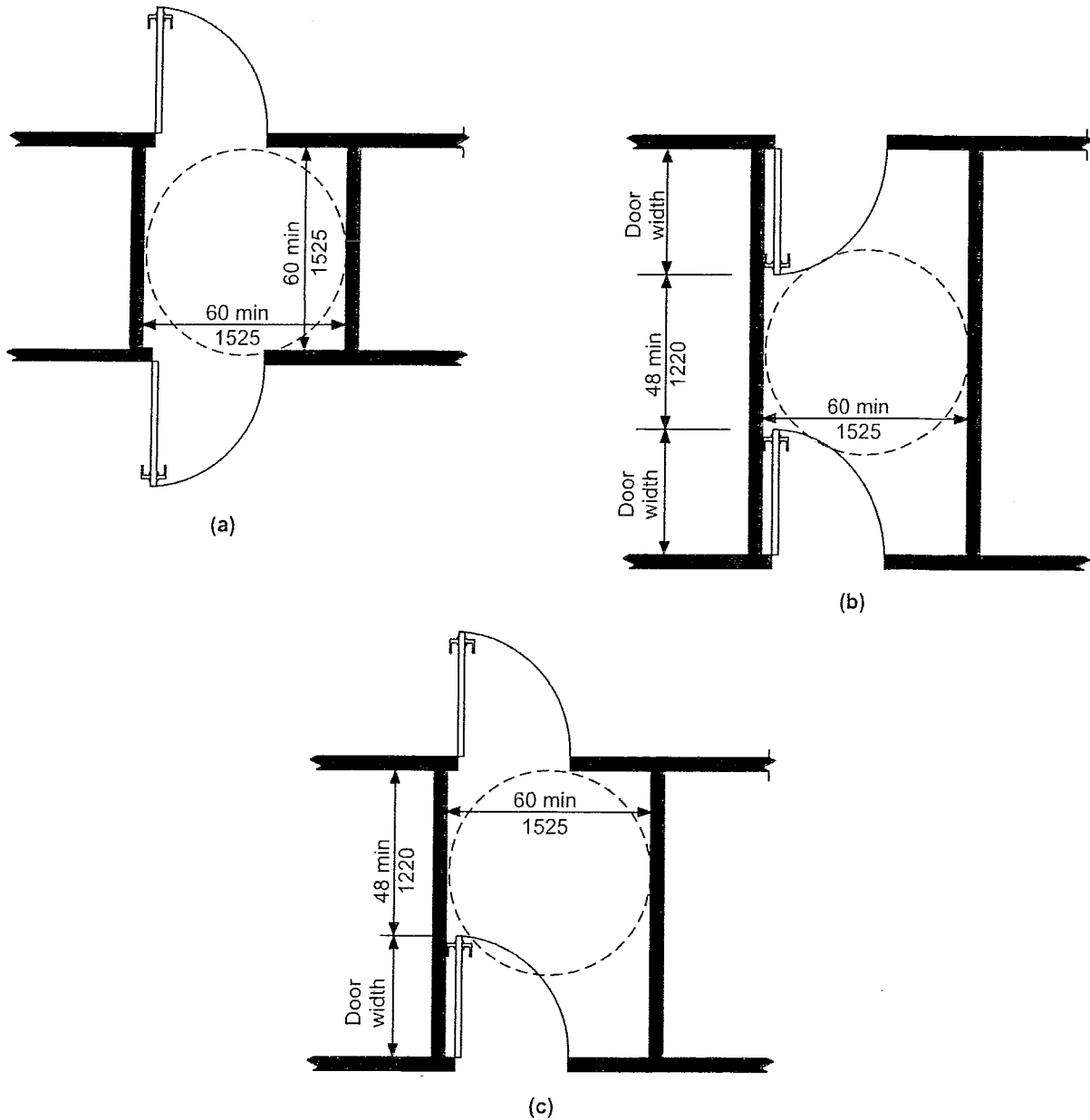


Fig. 404.2.5  
Two Doors in a Series

**404.2.7 Closing Speed.**

**404.2.7.1 Door Closers.** Door closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to an open position of 12 degrees shall be 5 seconds minimum.

**404.2.7.2 Spring Hinges.** Door spring hinges shall be adjusted so that from the open position of 70 degrees, the door shall move to the closed position in 1.5 seconds minimum.

**404.2.8 Door-Opening Force.** Fire doors shall have the minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open doors other than fire doors shall be as follows:

1. Interior hinged door: 5.0 pounds (22.2 N) maximum
2. Sliding or folding door: 5.0 pounds (22.2 N) maximum

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position.

**404.2.9 Door Surface.** Door surfaces within 10 inches (255 mm) of the floor, measured vertically, shall be a smooth surface on the push side extending the full width of the door. Parts creating horizontal or vertical joints in such surface shall be within  $\frac{1}{16}$  inch (1.6 mm) of the same plane as the other. Cavities created by added kick plates shall be capped.

**EXCEPTIONS:**

1. Sliding doors.
2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at no less than 60 degrees from the horizontal shall not be required to meet the 10 inch (255 mm) bottom rail height requirement.
3. Doors that do not extend to within 10 inches (255 mm) of the floor.

**404.2.10 Vision Lites.** Doors and sidelites adjacent to doors containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one panel on either the door or an adjacent sidelite 43 inches (1090 mm) maximum above the floor.

**EXCEPTION:** Vision lites with the lowest part more than 66 inches (1675 mm) above the floor are not required to comply with Section 404.2.10.

**404.3 Automatic Doors.** Automatic doors and automatic gates shall comply with Section 404.3. Full powered automatic doors shall comply with ANSI/BHMA A156.10 listed in Section 105.2.4. Power-assist and low-energy doors shall comply with ANSI/BHMA A156.19 listed in Section 105.2.3.

**EXCEPTION:** Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with Sections 404.3.2, 404.3.4, and 404.3.5.

**404.3.1 Clear Opening Width.** Doorways shall have a clear opening width of 32 inches (815 mm) in power-on and power-off mode. The minimum clear opening width for automatic door systems shall be based on the clear opening width provided with all leaves in the open position.

**404.3.2 Maneuvering Clearances.** Maneuvering clearances at power-assisted doors shall comply with Section 404.2.3.

**404.3.3 Thresholds.** Thresholds and changes in level at doorways shall comply with Section 404.2.4.

**404.3.4 Two Doors in Series.** Doors in series shall comply with Section 404.2.5.

**404.3.5 Control Switches.** Manually operated control switches shall comply with Section 309. The clear floor space adjacent to the control switch shall be located beyond the arc of the door swing.

## Chapter 3. Building Blocks

### 301 General

**301.1 Scope.** The provisions of Chapter 3 shall apply where required by the scoping provisions adopted by the administrative authority or by Chapters 4 through 10.

### 302 Floor Surfaces

**302.1 General.** Floor surfaces shall be stable, firm, and slip resistant, and shall comply with Section 302. Changes in level in floor surfaces shall comply with Section 303.

**302.2 Carpet.** Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. The pile shall be  $\frac{1}{2}$  inch (13 mm) maximum in height. Exposed edges of carpet shall be fastened to the floor and shall have trim along the entire length of the exposed edge. Carpet edge trim shall comply with Section 303.

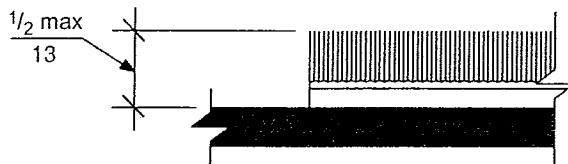


Fig. 302.2  
Carpet on Floor Surfaces

**302.3 Openings.** Openings in floor surfaces shall be of a size that does not permit the passage of a  $\frac{1}{2}$  inch (13 mm) diameter sphere, except as allowed in Sections 407.4.3, 408.4.3, 409.4.3, 410.4, and 805.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

### 303 Changes in Level

**303.1 General.** Changes in level in floor surfaces shall comply with Section 303.

**303.2 Vertical.** Changes in level of  $\frac{1}{4}$  inch (6.4 mm) maximum in height shall be permitted to be vertical.

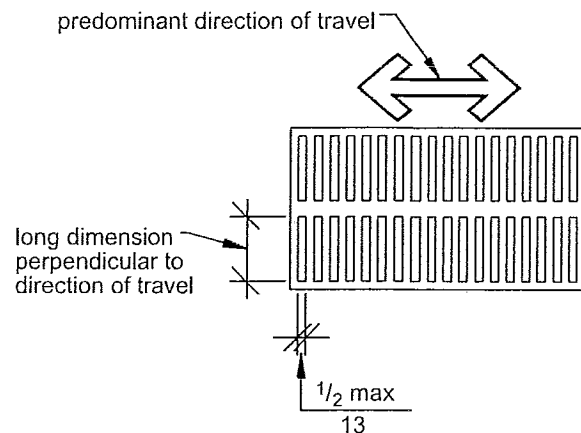


Fig. 302.3  
Openings in Floor Surfaces

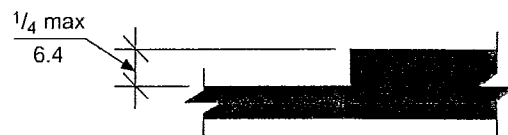


Fig. 303.2  
Carpet on Floor Surfaces

**303.3 Beveled.** Changes in level greater than  $\frac{1}{4}$  inch (6.4 mm) in height and not more than  $\frac{1}{2}$  inch (13 mm) maximum in height shall be beveled with a slope not steeper than 1:2.

Changes in level greater than  $\frac{1}{2}$  inch (13 mm) in height shall be ramped and shall comply with Section 405 or 406.

### 304 Turning Space

**304.1 General.** A turning space shall comply with Section 304.

**304.2 Floor Surface.** Floor surfaces of a turning space shall have a slope not steeper than 1:48 and shall comply with Section 302.

**304.3 Size.** Turning spaces shall comply with Section 304.3.1 or 304.3.2.

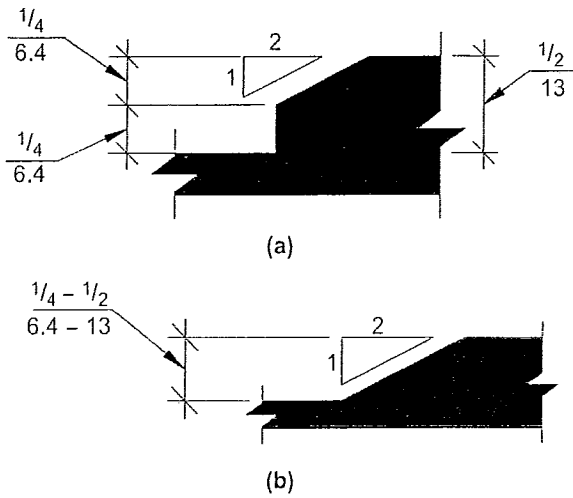
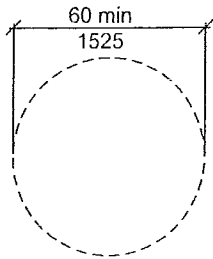
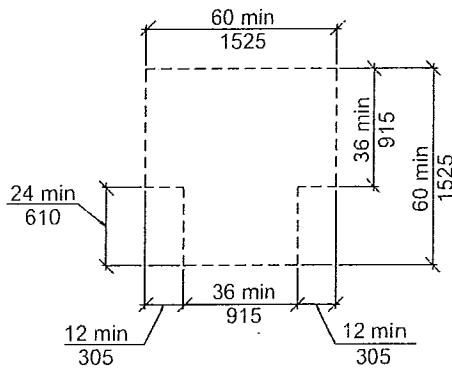


Fig. 303.3  
Beveled Changes in Level



(a) Circular



(b) T-shaped

Fig. 304.3  
Size of Turning Space

**304.3.2 T-Shaped Space.** The turning space shall be a T-shaped space within a 60-inch (1525 mm) minimum square, with arms and base 36 inches (915 mm) minimum in width. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction, and the base shall be clear of obstructions 24 inches (610 mm) minimum. The turning space shall be permitted to include knee and toe clearance complying with Section 306 only at the end of either the base or one arm.

**304.4 Door Swing.** Unless otherwise specified, doors shall be permitted to swing into turning spaces.