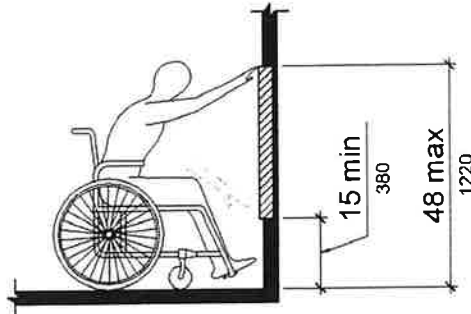


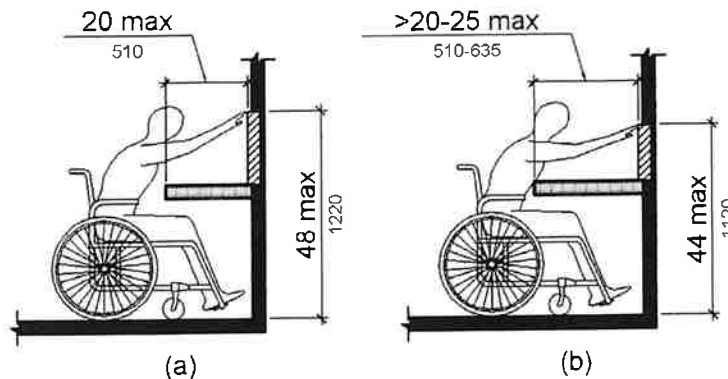
**308.2 Forward Reach.**

**308.2.1 Unobstructed.** Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.



**Figure 308.2.1  
Unobstructed Forward Reach**

**308.2.2 Obstructed High Reach.** Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the *element* for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.



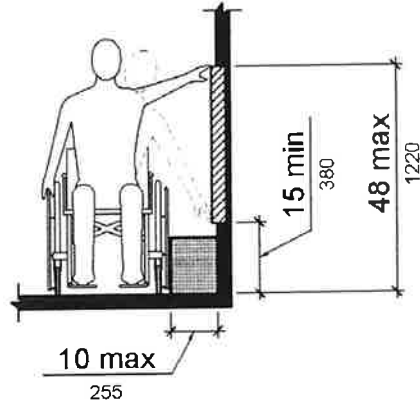
**Figure 308.2.2  
Obstructed High Forward Reach**

**308.3 Side Reach.**

**308.3.1 Unobstructed.** Where a clear floor or ground *space* allows a parallel approach to an *element* and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm)

maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

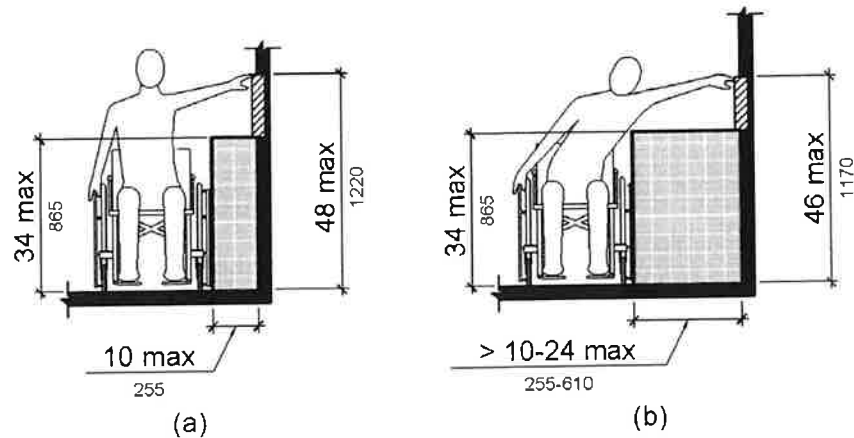
- EXCEPTIONS:** 1. An obstruction shall be permitted between the clear floor or ground *space* and the *element* where the depth of the obstruction is 10 inches (255 mm) maximum.
2. *Operable parts* of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the *vehicular way* where fuel dispensers are installed on existing curbs.



**Figure 308.3.1**  
**Unobstructed Side Reach**

**308.3.2 Obstructed High Reach.** Where a clear floor or ground *space* allows a parallel approach to an *element* and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

- EXCEPTIONS:** 1. The top of washing machines and clothes dryers shall be permitted to be 36 inches (915 mm) maximum above the finish floor.
2. *Operable parts* of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the *vehicular way* where fuel dispensers are installed on existing curbs.



**Figure 308.3.2**  
**Obstructed High Side Reach**

### 309 Operable Parts

**309.1 General.** *Operable parts* shall comply with 309.

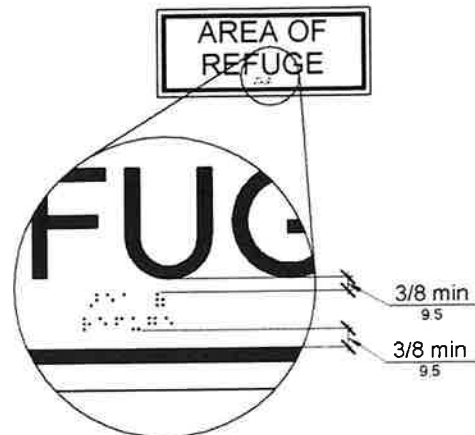
**309.2 Clear Floor Space.** A clear floor or ground space complying with 305 shall be provided.

**309.3 Height.** *Operable parts* shall be placed within one or more of the reach ranges specified in 308.

**309.4 Operation.** *Operable parts* shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate *operable parts* shall be 5 pounds (22.2 N) maximum.

**EXCEPTION:** Gas pump nozzles shall not be required to provide *operable parts* that have an activating force of 5 pounds (22.2 N) maximum.

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

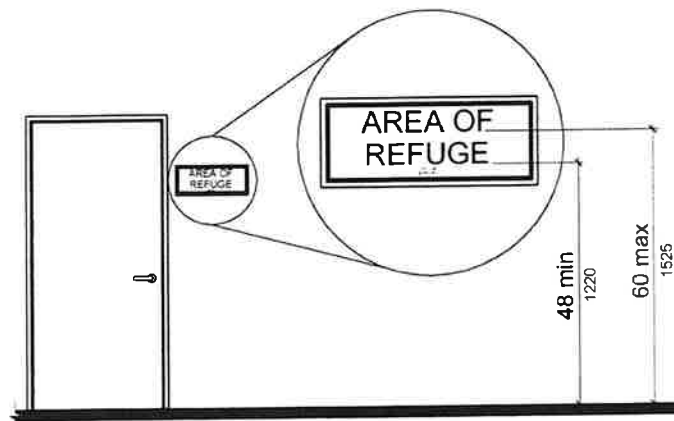


**Figure 703.3.2**  
**Position of Braille**

**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**

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## 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 document.

### 602 Drinking Fountains

**602.1 General.** Drinking fountains shall comply with 307 and 602.

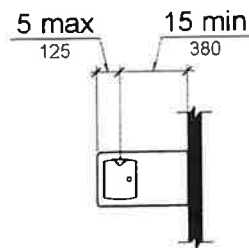
**602.2 Clear Floor Space.** Units shall have a clear floor or ground space complying with 305 positioned for a forward approach and centered on the unit. Knee and toe clearance complying with 306 shall be provided.

**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 3½ 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.

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.

**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.

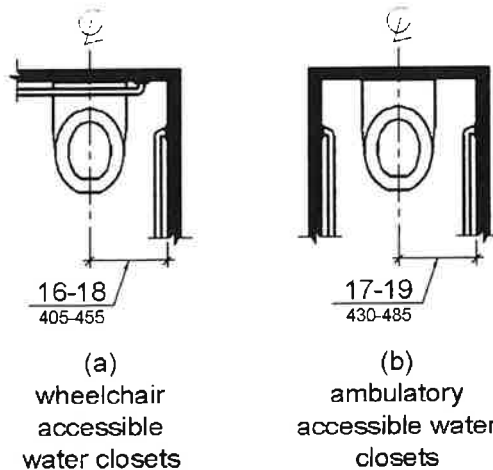
**603.4 Coat Hooks and Shelves.** Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

### 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.

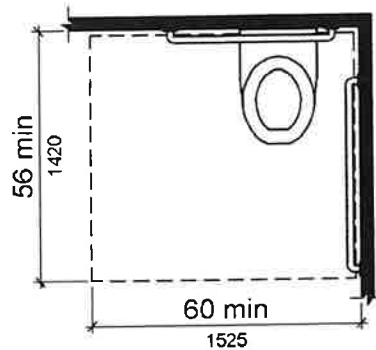
**604.2 Location.** The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) 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.

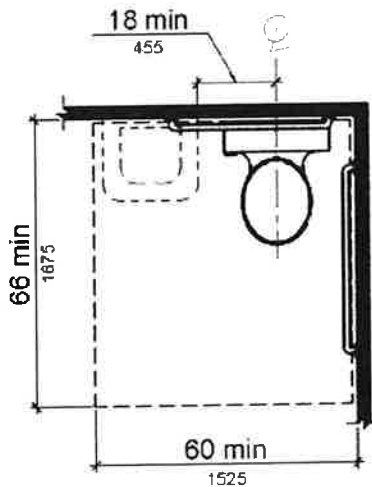


**Figure 604.3.1**  
**Size of Clearance at Water Closets**

**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.  
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.

**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.

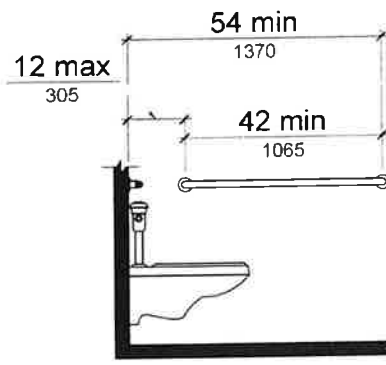
**EXCEPTIONS:** 1. Grab bars shall not be required to be installed in a toilet room for a single occupant accessed only through a private office and not for *common use* or *public use* provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 604.5.

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.

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.

**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.

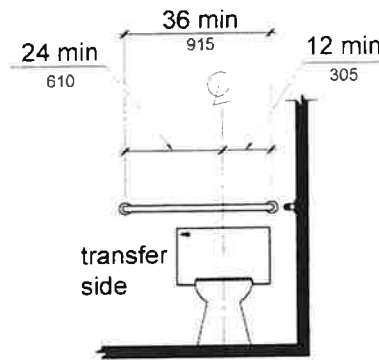


**Figure 604.5.1**  
**Side Wall Grab Bar at Water Closets**

**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 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 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.



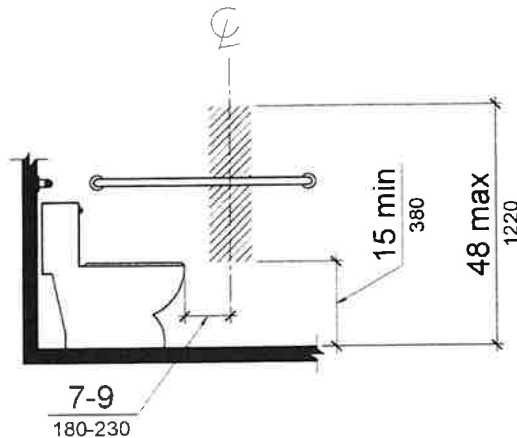
**Figure 604.5.2**  
**Rear Wall Grab Bar at Water Closets**

**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.



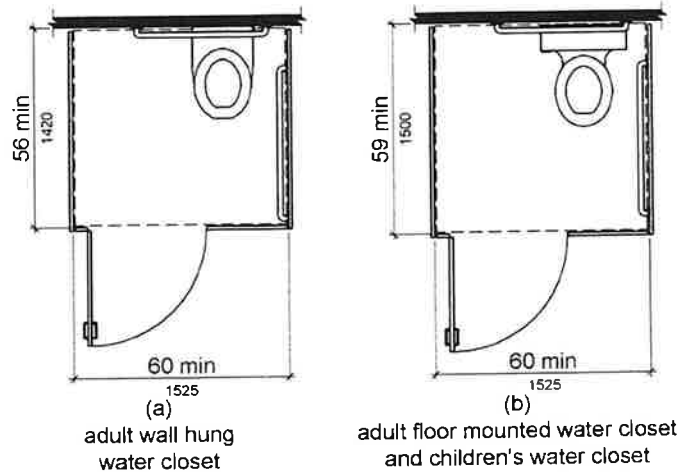
**Figure 604.7**  
**Dispenser Outlet Location**

**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.

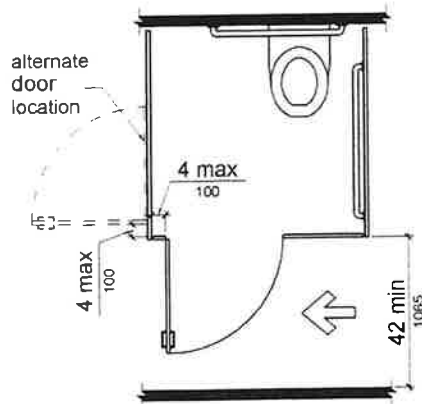
**604.8.1.1 Size.** Wheelchair *accessible* compartments shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 56 inches (1420 mm) deep minimum for wall hung water closets and 59 inches (1500 mm) deep minimum for floor mounted water closets measured perpendicular to the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

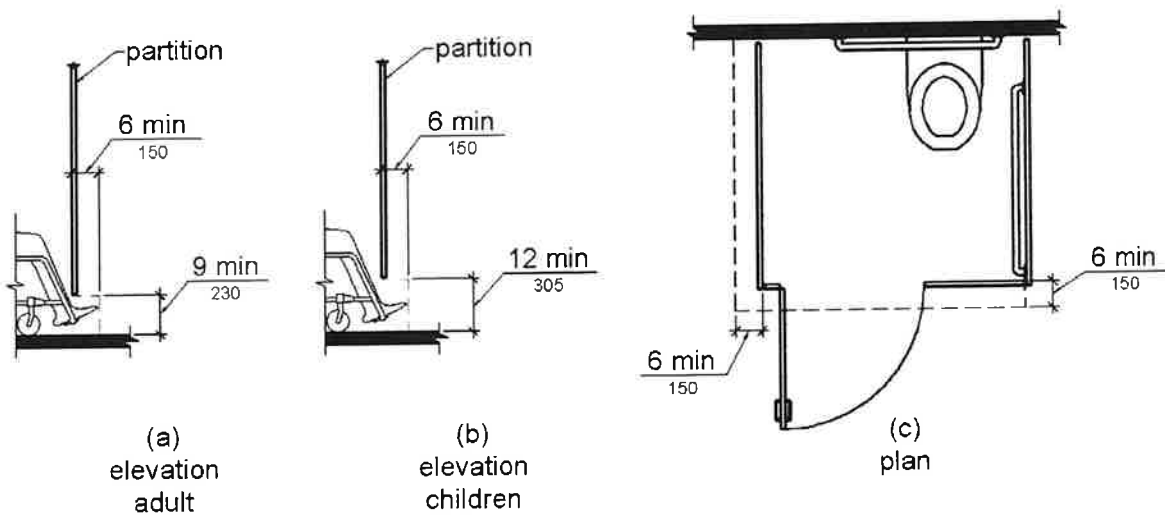


**Figure 604.8.1.2**  
**Wheelchair Accessible Toilet Compartment Doors**

**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**

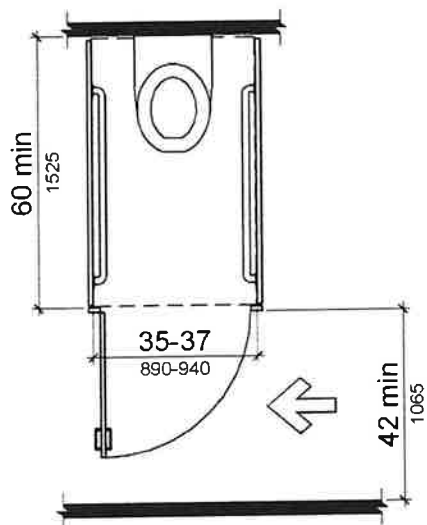
**604.8.1.5 Grab Bars.** Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided and shall be located on the wall closest to the water closet. In addition, a rear-wall grab bar complying with 604.5.2 shall be provided.

**604.8.2 Ambulatory Accessible Compartments.** Ambulatory *accessible* compartments shall comply with 604.8.2.

**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.



**Figure 604.8.2**  
**Ambulatory Accessible Toilet 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.

**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.

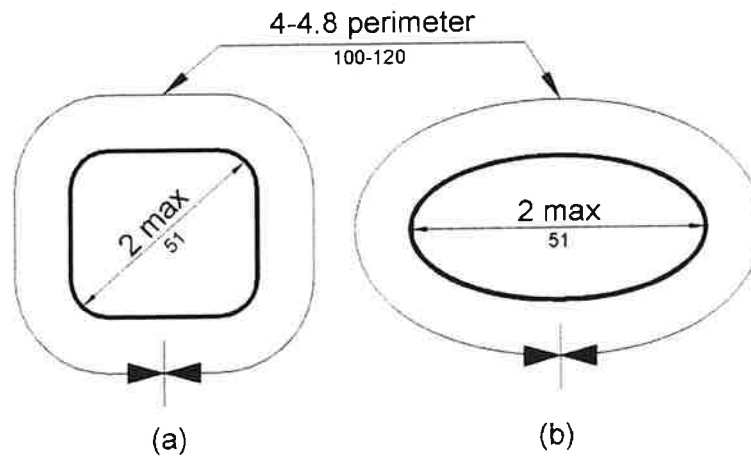
### 609 Grab Bars

**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 1¼ inches (32 mm) minimum and 2 inches (51 mm) maximum.

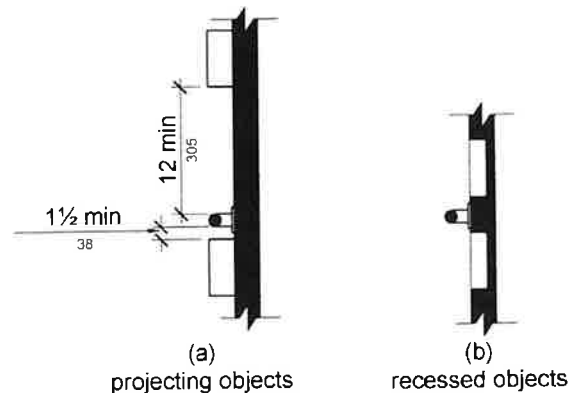
**609.2.2 Non-Circular Cross Section.** Grab bars with non-circular cross sections shall have a cross-section dimension of 2 inches (51 mm) maximum and a perimeter dimension of 4 inches (100 mm) minimum and 4.8 inches (120 mm) maximum.



**Figure 609.2.2**  
**Grab Bar Non-Circular Cross Section**

**609.3 Spacing.** The *space* between the wall and the grab bar shall be 1½ inches (38 mm). The *space* between the grab bar and projecting objects below and at the ends shall be 1½ 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 1½ 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.