

# CHAPTER 3 BUILDING BLOCKS

## SECTION 301 GENERAL

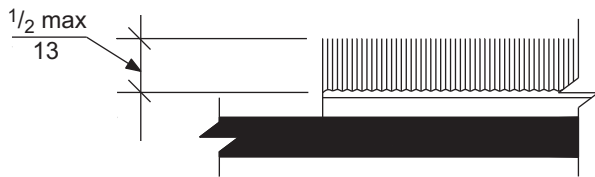
**301.1 Scope.** The provisions of Chapter 3 shall apply where required by the scoping provisions adopted by the administrative authority or by Chapters 4 through 11.

**301.2 Overlap.** Unless otherwise specified, clear floor spaces, clearances at fixtures, maneuvering clearances at doors, and turning spaces shall be permitted to overlap.

## SECTION 302 FLOOR SURFACES

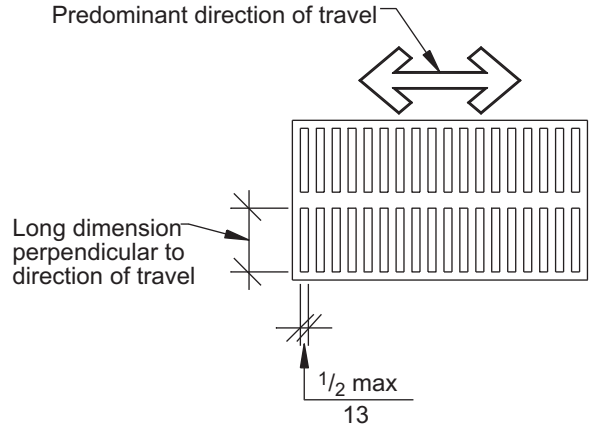
**302.1 General.** Floor surfaces shall be stable, firm, and slip resistant, and shall comply with Section 302. Changes in level in floor surfaces shall comply with Section 303.

**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.



**FIGURE 302.2  
CARPET ON FLOOR SURFACES**

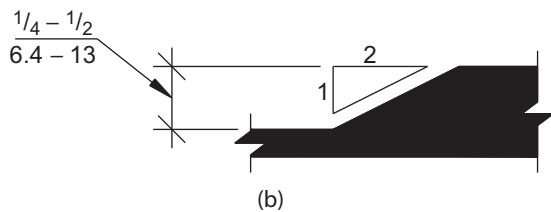
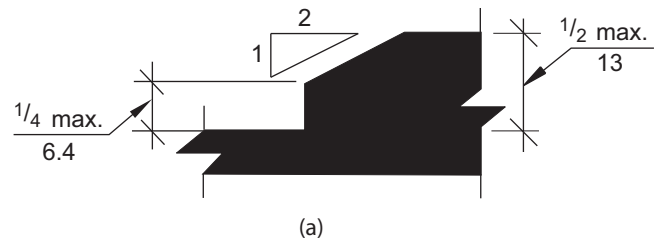
**302.3 Openings.** Openings in floor surfaces shall be of a size that does not permit the passage of a  $\frac{1}{2}$  inch (13 mm) diameter sphere, except as allowed in Sections 407.4.3, 408.4.3, 409.4.3, 410.4, and 805.10. Elongated openings shall be placed so that the long dimension is perpendicular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



**FIGURE 302.3  
OPENINGS IN FLOOR SURFACES**



**FIGURE 303.2  
VERTICAL CHANGES IN LEVEL**



**FIGURE 303.3  
BEVELED CHANGES IN LEVEL**

## SECTION 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.

**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.

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

**SECTION 304  
TURNING SPACE**

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

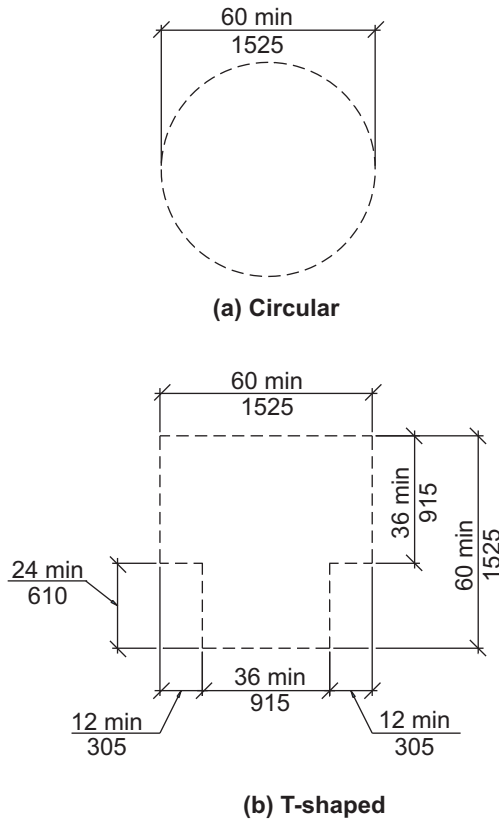
**304.2 Floor surface.** Floor surfaces of a turning space shall comply with Section 302. Changes in level are not permitted within the turning space.

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

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

**304.3.1 Circular space.** The turning space shall be a circular space with a 60-inch (1525 mm) minimum diameter. The turning space shall be permitted to include knee and toe clearance complying with Section 306.

**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.



**FIGURE 304.3  
SIZE OF TURNING SPACE**

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

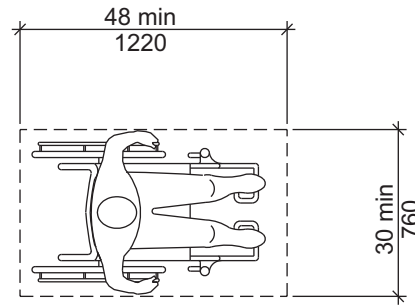
**SECTION 305  
CLEAR FLOOR SPACE**

**305.1 General.** A clear floor space shall comply with Section 305.

**305.2 Floor surfaces.** Floor surfaces of a clear floor space shall comply with Section 302. Changes in level are not permitted within the clear floor space.

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

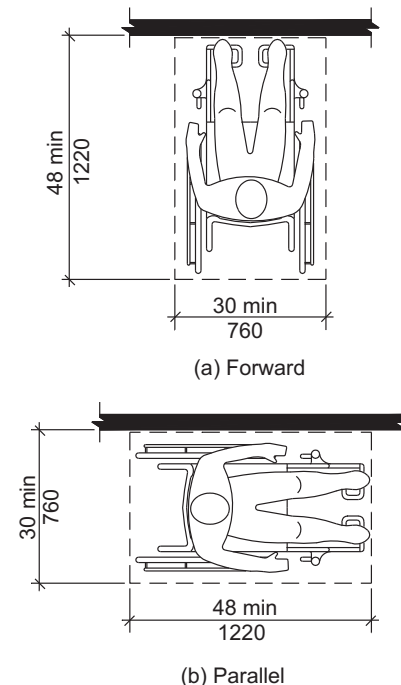
**305.3 Size.** The clear floor space shall be 48 inches (1220 mm) minimum in length and 30 inches (760 mm) minimum in width.



**FIGURE 305.3  
SIZE OF CLEAR FLOOR SPACE**

**305.4 Knee and toe clearance.** Unless otherwise specified, clear floor space shall be permitted to include knee and toe clearance complying with Section 306.

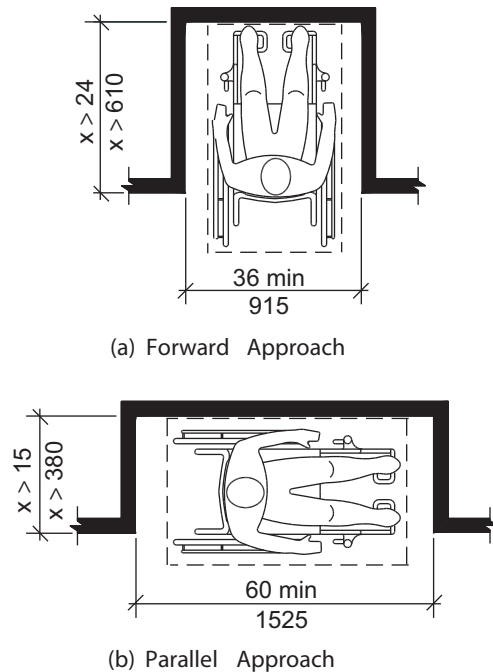
**305.5 Position.** Unless otherwise specified, the clear floor space shall be positioned for either forward or parallel approach to an element.



**FIGURE 305.5  
POSITION OF CLEAR FLOOR SPACE**

**305.6 Approach.** One full, unobstructed side of the clear floor space shall adjoin or overlap an accessible route or adjoin another clear floor space.

**305.7 Alcoves.** If a clear floor space is in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearances complying with Sections 305.7.1 and 305.7.2 shall be provided, as applicable.



**FIGURE 305.7**  
**MANEUVERING CLEARANCE IN AN ALCOVE**

**305.7.1 Parallel approach.** Where the clear floor space is positioned for a parallel approach, the alcove shall be 60 inches (1525 mm) minimum in width where the depth exceeds 15 inches (380 mm).

**305.7.2 Forward approach.** Where the clear floor space is positioned for a forward approach, the alcove shall be 36 inches (915 mm) minimum in width where the depth exceeds 24 inches (610 mm).

**SECTION 306**  
**KNEE AND TOE CLEARANCE**

**306.1 General.** Where space beneath an element is included as part of clear floor space at an element, clearance at an element, or a turning space, the space shall comply with Section 306. Additional space shall not be prohibited beneath an element, but shall not be considered as part of the clear floor space or turning space.

**306.2 Toe Clearance.**

**306.2.1 General.** Space beneath an element between the floor and 9 inches (230 mm) above the floor shall be considered toe clearance and shall comply with Section 306.2.

**306.2.2 Maximum depth.** Toe clearance shall be permitted to extend 25 inches (635 mm) maximum under an element.

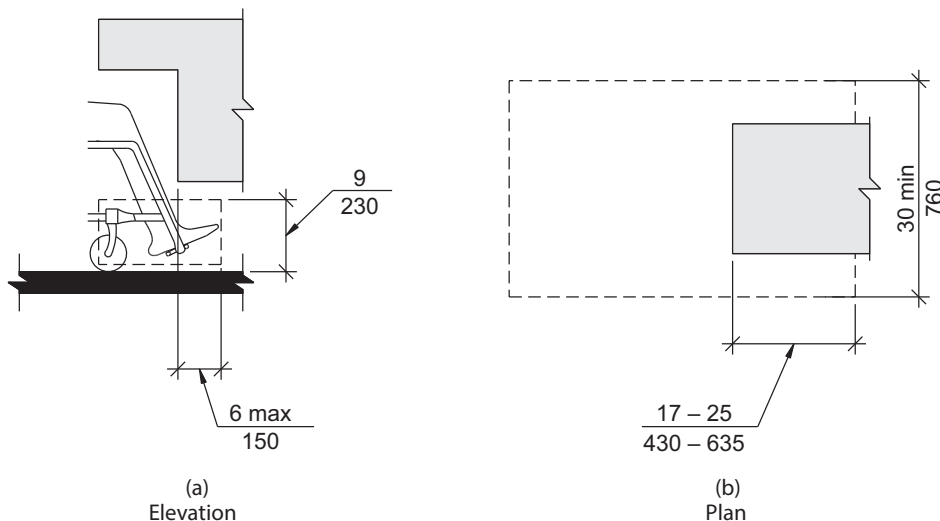
**306.2.3 Minimum depth.** Where toe clearance is required at an element as part of a clear floor space complying with Section 305, the toe clearance shall extend 17 inches (430 mm) minimum beneath the element.

**306.2.4 Additional clearance.** Space extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the floor shall not be considered toe clearance.

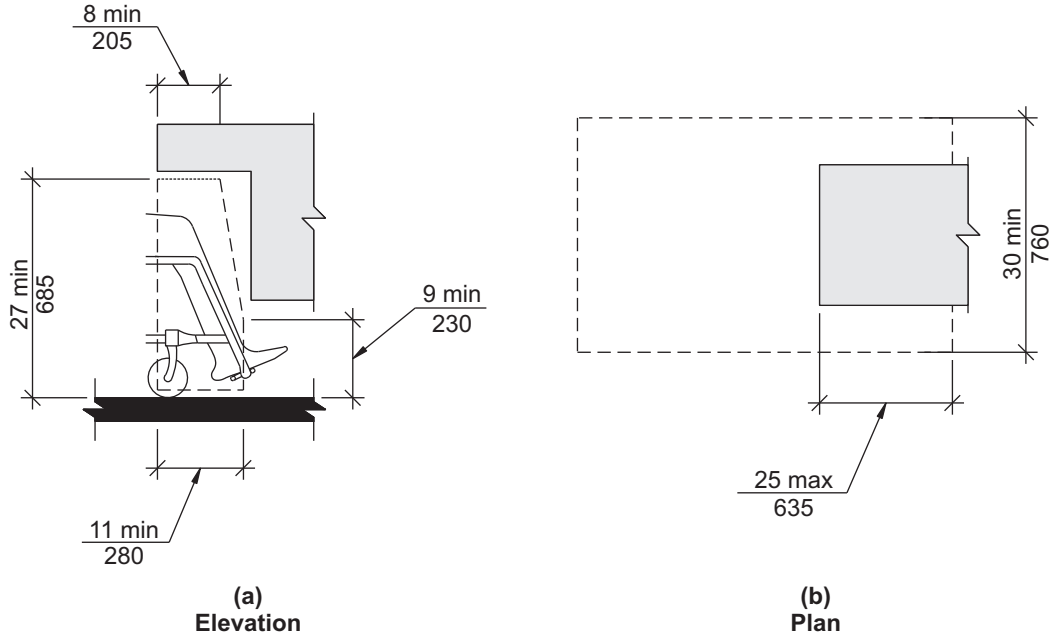
**306.2.5 Width.** Toe clearance shall be 30 inches (760 mm) minimum in width.

**306.3 Knee clearance.**

**306.3.1 General.** Space beneath an element between 9 inches (230 mm) and 27 inches (685 mm) above the floor shall be considered knee clearance and shall comply with Section 306.3.



**FIGURE 306.2**  
**TOE CLEARANCE**



**FIGURE 306.3**  
**KNEE CLEARANCE**

**306.3.2 Maximum depth.** Knee clearance shall be permitted to extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the floor.

**306.3.3 Minimum depth.** Where knee clearance is required beneath an element as part of a clear floor space complying with Section 305, the knee clearance shall be 11 inches (280 mm) minimum in depth at 9 inches (230 mm) above the floor, and 8 inches (205 mm) minimum in depth at 27 inches (685 mm) above the floor.

**306.3.4 Clearance reduction.** Between 9 inches (230 mm) and 27 inches (685 mm) above the floor, the knee clearance shall be permitted to be reduced at a rate of 1 inch (25 mm) in depth for each 6 inches (150 mm) in height.

**306.3.5 Width.** Knee clearance shall be 30 inches (760 mm) minimum in width.

or pylons where the clear distance between the posts or pylons is greater than 12 inches (305 mm) shall have the lowest edge of such object either 27 inches (685 mm) maximum or 80 inches (2030 mm) minimum above the floor.

**Exception:** Sloping portions of handrails between the top and bottom riser of stairs and above the ramp run shall not be required to comply with Section 307.3.

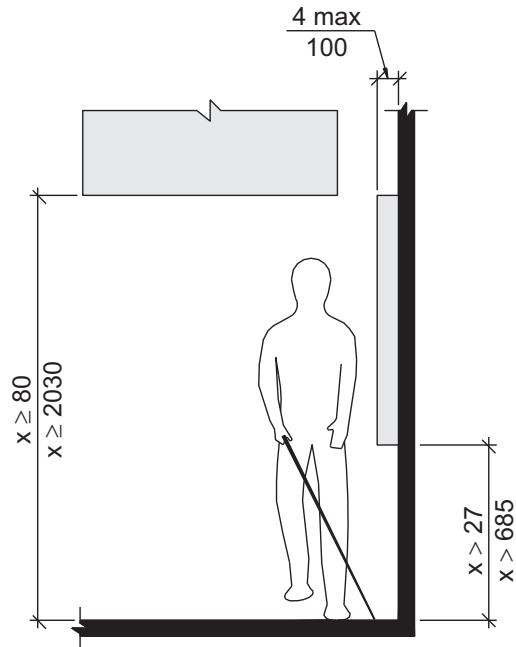
**SECTION 307**  
**PROTRUDING OBJECTS**

**307.1 General.** Protruding objects on circulation paths shall comply with Section 307.

**307.2 Protrusion limits.** Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the floor shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.

**Exception:** Handrails shall be permitted to protrude 4½ inches (115 mm) maximum.

**307.3 Post-mounted objects.** Objects on posts or pylons shall be permitted to overhang 4 inches (100 mm) maximum where more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the floor. Objects on multiple posts

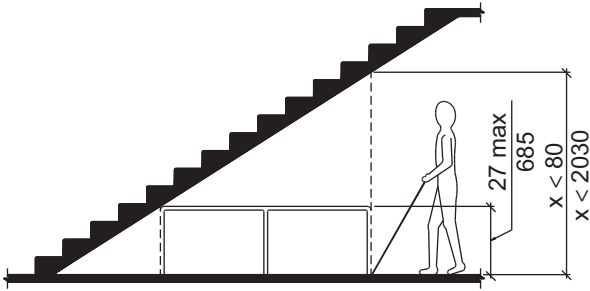


**FIGURE 307.2**  
**LIMITS OF PROTRUDING OBJECTS**



**307.4 Vertical clearance.** Vertical clearance shall be 80 inches (2030 mm) minimum. Rails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm). The leading edge of such rails or barrier shall be located 27 inches (685 mm) maximum above the floor.

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



**FIGURE 307.4  
REDUCED VERTICAL CLEARANCE**

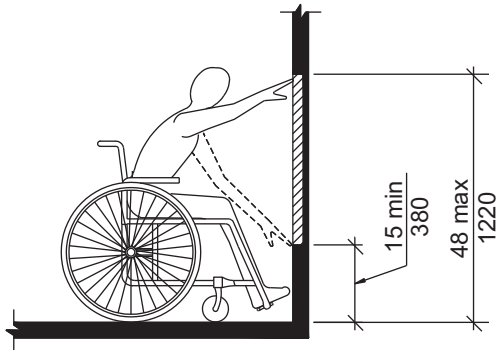
**307.5 Required clear width.** Protruding objects shall not reduce the clear width required for accessible routes.

**SECTION 308  
REACH RANGES**

**308.1 General.** Reach ranges shall comply with Section 308.

**308.2 Forward reach.**

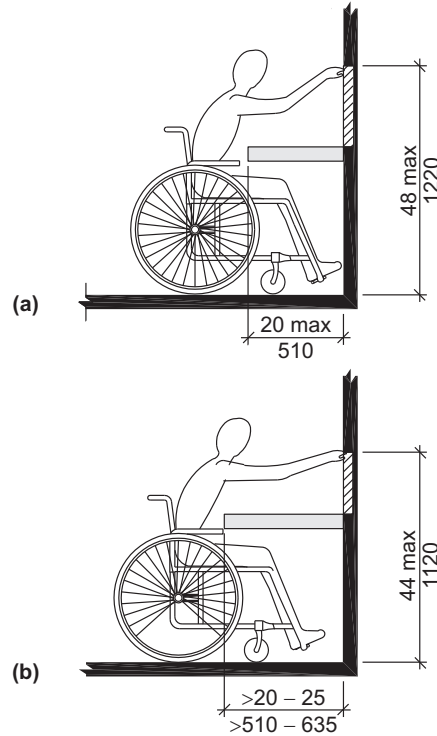
**308.2.1 Unobstructed.** Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the floor.



**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 complying with Section 305 shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 44 inches (1120 mm) maximum above the floor 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 above the floor, and the reach depth shall be 25 inches (635 mm) maximum.

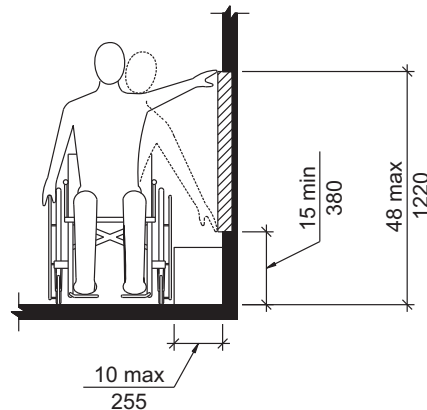


**FIGURE 308.2.2  
OBSTRUCTED HIGH FORWARD REACH**

**308.3 Side reach.**

**308.3.1 Unobstructed.** Where a clear floor space complying with Section 305 allows a parallel approach to an element and the edge of the clear floor space is 10 inches (255 mm) maximum from the element, 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 floor.

**Exception:** Existing elements that are not altered shall be permitted at 54 inches (1370 mm) maximum above the floor.



**FIGURE 308.3.1  
UNOBSTRUCTED SIDE REACH**

**308.3.2 Obstructed high reach.** Where a clear floor space complying with Section 305 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 above the floor and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum above the floor 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 above the floor for a reach depth of 24 inches (610 mm) maximum.

**Exception:** At washing machines and clothes dryers, the height of the obstruction shall be permitted to be 36 inches (915 mm) maximum above the floor.

**SECTION 309  
OPERABLE PARTS**

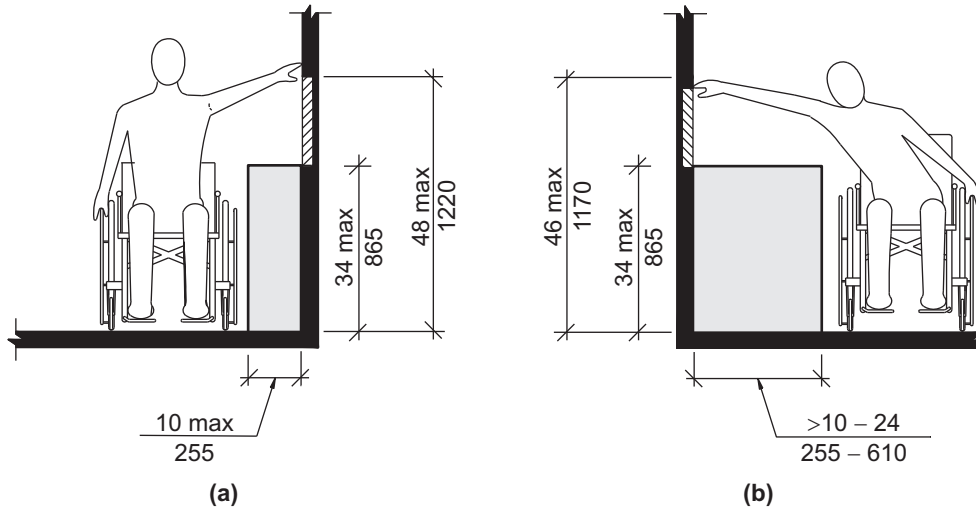
**309.1 General.** Operable parts required to be accessible shall comply with Section 309.

**309.2 Clear floor space.** A clear floor space complying with Section 305 shall be provided.

**309.3 Height.** Operable parts shall be placed within one or more of the reach ranges specified in Section 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 5.0 pounds (22.2 N) maximum.

**Exception:** Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5.0 pounds (22.2 N) maximum.



**FIGURE 308.3.2  
OBSTRUCTED HIGH SIDE REACH**