

CHAPTER 3 BUILDING BLOCKS

302 Floor or Ground Surface

302.0 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/loop pile texture. The height shall be 1/2 inch (13 mm) maximum. Exposed edges of carpet shall be belted to floor surfaces and shall have firm on the entire length of the exposed exposed edge. Carpet edges 1/4 inch shall comply with 303.

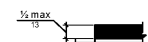


Figure 302.2 Carpet Pile Height

302.3 Openings. Openings in floor or ground surface shall not allow passage of a sphere more than 1/2 inch (13 mm) diameter except as allowed in 407.4.3, 409.4.3, 410.4, 810.5.3 and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

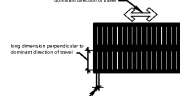


Figure 302.3 Elongated Openings in Floor or Ground Surface

303.2 Vertical. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be vertical.

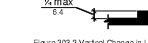


Figure 303.2 Vertical Change in Level

303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and 1/2 inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

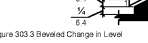


Figure 303.3 Beveled Change in Level

304 Turning Space

304.3.1 Circular Space. The turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.

304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. 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 space shall be permitted to include knee and toe clearance complying with 306 and the area of the base or arm.

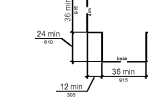


Figure 304.3.2 T-Shaped Turning Space

305 Clear Floor or Ground Space

305.1 Forward Approach. Access shall be 36 inches (915 mm) minimum where the depth exceeds 24 inches (610 mm).

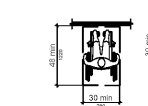


Figure 305.1 Forward Approach

305.7.2 Parallel Approach. Access shall be 60 inches (1525 mm) wide minimum where the depth exceeds 15 inches (380 mm).

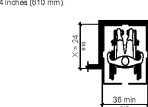


Figure 305.7.2 Parallel Approach

305.7.2 Manuevering Clearance in an Aisle, Parallel Approach

305.7.2 Parallel Approach. Access shall be 60 inches (1525 mm) wide minimum where the depth exceeds 15 inches (380 mm).



Figure 305.7.2 Manuevering Clearance in an Aisle, Parallel Approach

306 Knee and Toe Clearance

306.2 Toe Clearance. 306.2.1 General. Space under an element between the finish floor or ground and 27 inches (685 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.2. 306.2.2 Maximum Depth. Toe clearance shall extend 25 inches (635 mm) maximum under an element. 306.2.3 Minimum Required Depth. Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches (280 mm) deep minimum at 9 inches (230 mm) above the finish floor or ground, and 9 inches (230 mm) deep minimum at 27 inches (685 mm) above the finish floor or ground. 306.2.4 Additional Clearance. Space extending less than 6 inches (150 mm) below the available knee clearance at 9 inches (230 mm) above the finish floor or ground shall not be covered toe clearance. 306.3 Toe Clearance. Toe clearance shall be 30 inches (760 mm) wide minimum.

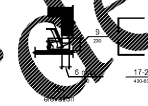


Figure 306.2 Toe Clearance

306.3 Knee Clearance

306.3.1 General. Space under an element between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.3. 306.3.2 Maximum Depth. Knee clearance shall extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the finish floor or ground. 306.3.3 Minimum Required Depth. Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches (280 mm) deep minimum at 9 inches (230 mm) above the finish floor or ground, and 9 inches (230 mm) deep minimum at 27 inches (685 mm) above the finish floor or ground. 306.3.4 Clearance Reduction. Between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground, the knee clearance shall be permitted to reduce 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) wide minimum.

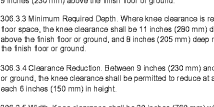


Figure 306.3 Knee Clearance

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4.12 inches (105 mm) maximum horizontally into the circulation path.

EXCEPTION: Handrails shall be permitted to protrude 4.12 inches (115 mm) maximum.

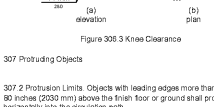


Figure 307.2 Limits of Protruding Objects

307.3 Post-Mounted Objects. Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030 mm) maximum above the finish floor or ground.

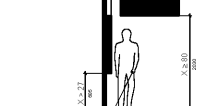


Figure 307.3 Post-Mounted Protruding Objects

307.4 Vertical Clearance. Vertical clearance shall be 80 inches (2030 mm) high minimum. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the finish floor or ground.

EXCEPTION: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.



Figure 307.4 Vertical Clearance

308 Reach Ranges

308.1 Forward Reach. 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.

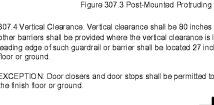


Figure 308.1 Forward Reach

308.2 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 when 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 (1100 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

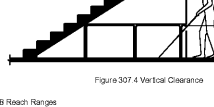


Figure 308.2 Obstructed High Forward Reach

308.3 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

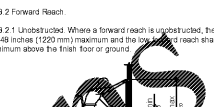


Figure 308.3 Clear Width at Turn

308.4 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

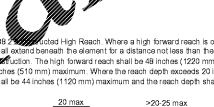


Figure 308.4 Clear Width at Turn

308.5 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

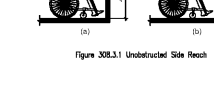


Figure 308.5 Clear Width at Turn

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.

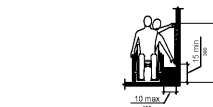


Figure 308.3.1 Side Reach

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.

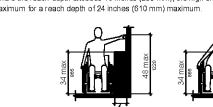


Figure 308.3.2 Obstructed High Side Reach

309 Operable Parts

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.

CHAPTER 4 ACCESSIBLE ROUTES

402.2 Components. Accessible routes shall consist of one or more of the following components: walking surface with a running slope no steeper than 1:20, doorways, steps, curb ramps, including the flared side, elevators, and platform lifts. All components of an accessible route shall comply with the applicable requirements of Chapter 4.

402.3 Components. Walking surfaces must have running slopes not steeper than 1:20, see 403.3. Other components of accessible routes, such as ramps (405) and curb ramps (406), are permitted to be more steeply sloped.

403 Walking Surface

403.1 General. Walking surface shall be a part of an accessible route shall comply with 403. 403.2 Floor or Ground Surface. Floor or ground surface shall comply with 302. 403.3 Slope. The running slope of walking surface shall not be steeper than 1:20. The cross slope of walking surface shall not be steeper than 1:48. 403.4 Changes in Level. Changes in level shall comply with 303. 403.5 Clearances. Walking surfaces shall provide clearances complying with 403.5. EXCEPTION: Within employee work areas, clearances on common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed. 403.5.1 Clear Width. Except as provided in 403.5.2 and 403.5.3, the clear width of walking surface shall be 36 inches (915 mm) minimum. EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 30 inches (760 mm) wide minimum.

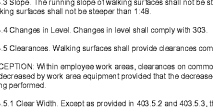


Figure 403.5.1 Clear Width of Accessible Route

403.5.2 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

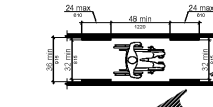


Figure 403.5.2 Clear Width at Turn

403.5.3 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.



Figure 403.5.3 Clear Width at Turn

403.5.4 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

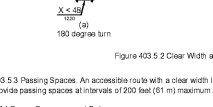


Figure 403.5.4 Clear Width at Turn

404 Doors, Doorways, and Gates

404.2.3 Clear Width. Door openings shall provide a clear width of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening with lower than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening with between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).

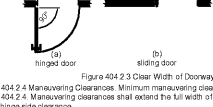


Figure 404.2.3 Clear Width of Doorways

404.2.4 Manuevering Clearance. Minimum manuevering clearance at doors and gates shall comply with 404.2.4. Manuevering clearance shall extend the full width of the doorway and the required latch side or hinge side clearance.



Figure 404.2.4 Manuevering Clearance

404.2.4.3 Reversed Doors and Gates. Manuevering clearance for forward approach shall be provided when 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 or gate.

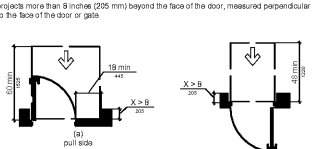


Figure 404.2.4.3 Reversed Doors and Gates

404.2.4.3 Manuevering Clearances at Reversed Doors and Gates

404.2.4.3 Doors in Series and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1220 mm) minimum plus the width of doors or gates swinging into the space.

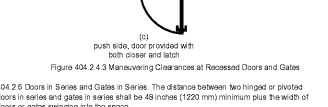


Figure 404.2.4.3 Manuevering Clearances at Reversed Doors and Gates

404.2.6 Doors in Series and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1220 mm) minimum plus the width of doors or gates swinging into the space.

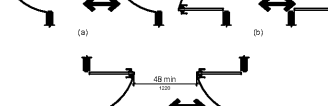


Figure 404.2.6 Doors in Series and Gates in Series

404.2.7 Door and Gate Hardware. Handles, pulls, latches, locks, and operable parts of doors and gates shall comply with 309.4. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the finish floor or ground. Where sliding doors are in the fully open position, the hardware shall be 34 inches (865 mm) and 48 inches (1220 mm) maximum above the finish floor or ground.

404.2.8.1 Door Closers and Damper. Door closers and dampers shall be permitted to be attached to that from an open position to a closed position in the time required to swing the door to a closed position of 12 degrees from the latch to a closed position.

404.2.8.2 Spring Hinges. Door and gate hinges shall be adjusted so that when the open position is more degrees, the door or gate shall be closed in 1 to 5 seconds.

404.2.9.1 Clear Width. Clear width of door openings shall be 32 inches (815 mm) minimum. EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 30 inches (760 mm) wide minimum.

404.2.9.2 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.3 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.4 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.5 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.6 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.7 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.8 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.9 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.10 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.11 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.12 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.13 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.14 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.15 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.16 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.17 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.18 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.19 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.20 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.21 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.22 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48 inches (1220 mm) minimum leaving the turn.

404.2.9.23 Clear Width at Turn. Where an accessible route is 180 degrees turn around an element which is less than 48 inches (1220 mm) clear width, the clear width shall be 48 inches (1220 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn, and 48