

**405 Ramps**

**405.1 General.** Ramps along accessible routes shall comply with Section 405.

**EXCEPTION:** In assembly areas, aisle ramps adjacent to seating and not serving elements required to be on an accessible route shall not be required to comply with Section 405.

**405.2 Slope.** Ramp runs shall have a running slope greater than 1:20 and not steeper than 1:12.

**EXCEPTION:** In existing buildings or facilities, ramps shall be permitted to have slopes steeper than 1:12 complying with Table 405.2 where such slopes are necessary due to space limitations.

**405.3 Cross Slope.** Cross slope of ramp runs shall not be steeper than 1:48.

**405.4 Floor Surfaces.** Floor surfaces of ramp runs shall comply with Section 302.

**405.5 Clear Width.** The clear width of a ramp run shall be 36 inches (915 mm) minimum. Handrails and hand-rail supports that are provided on the ramp run shall not project into the required clear width of the ramp run.

**405.6 Rise.** The rise for any ramp run shall be 30 inches (760 mm) maximum.

**405.7 Landings.** Ramps shall have landings at the bottom and top of each ramp run. Landings shall comply with Section 405.7.

**405.7.1 Slope.** Landings shall have a slope not steeper than 1:48 and shall comply with Section 302.

**405.7.2 Width.** Clear width of landings shall be at least as wide as the widest ramp run leading to the landing.

**405.7.3 Length.** Landings shall have a clear length of 60 inches (1525 mm) minimum.

**405.7.4 Change in Direction.** Ramps that change direction at ramp landings shall be sized to provide a turning space complying with Section 304.3.

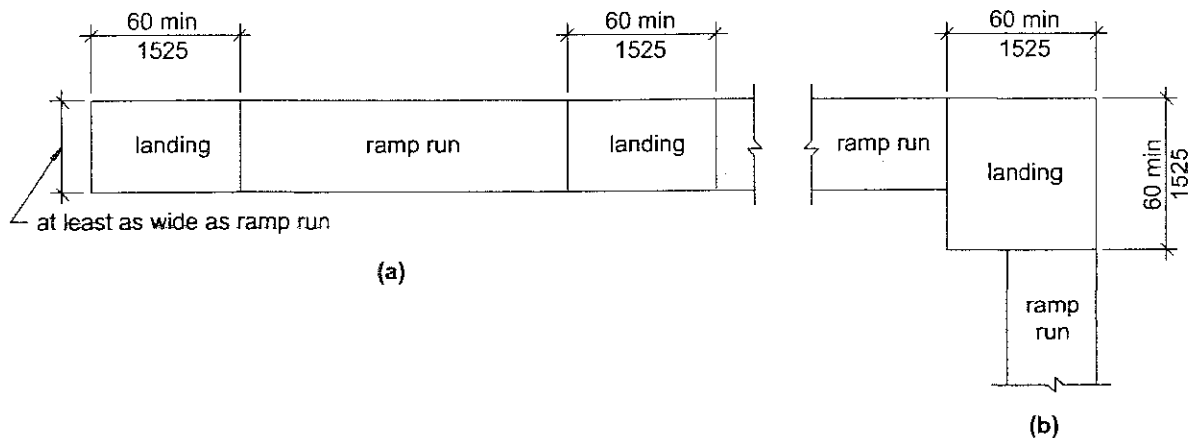
**405.7.5 Doorways.** Where doorways are adjacent to a ramp landing, maneuvering clearances required by Sections 404.2.3 and 404.3.2 shall be permitted to overlap the landing area. Where a door that is subject to locking is located adjacent to a ramp landing, the landing shall be sized to provide a turning space complying with Section 304.3.

**405.8 Handrails.** Ramp runs with a rise greater than 6 inches (150 mm) shall have handrails complying with Section 505.

**TABLE 405.2—ALLOWABLE RAMP DIMENSIONS FOR CONSTRUCTION IN EXISTING SITES, BUILDINGS AND FACILITIES**

Slope <sup>1</sup>	Maximum Rise
Steeper than 1:10 but not steeper than 1:8	3 inches (75 mm)
Steeper than 1:12 but not steeper than 1:10	6 inches (150 mm)

<sup>1</sup>A slope steeper than 1:8 shall not be permitted.



**FIG. 405.7 RAMP LANDINGS**

**405.9 Edge Protection.** Edge protection complying with Section 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

**EXCEPTIONS:**

1. Edge protection shall not be required on ramps not required to have handrails and that have flared sides complying with Section 406.3.
2. Edge protection shall not be required on the sides of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection shall not be required on the sides of ramp landings having a vertical drop-off of 1/2 inch (13 mm) maximum within 10 inches (255 mm) horizontally of the minimum landing area specified in Section 405.7.
4. Edge protection shall not be required on the sides of ramped aisles where the ramps provide access to the adjacent seats and aisle access ways.

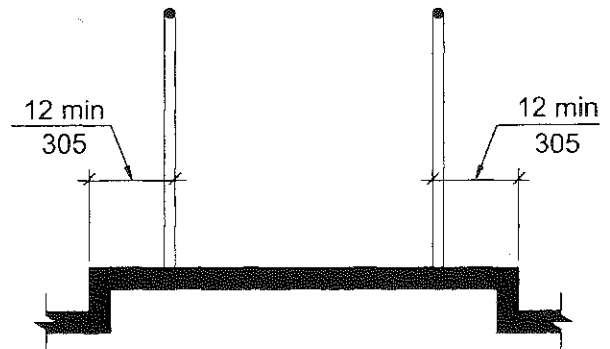
**405.9.1 Extended Floor Surface.** The floor surface of the ramp run or ramp landing shall extend 12 inches (305 mm) minimum beyond the inside face of a railing complying with Section 505.

**405.9.2 Curb or Barrier.** A curb complying with Section 405.9.2.1 or a barrier complying with Section 405.9.2.2 shall be provided.

**405.9.2.1 Curb.** A curb shall be a minimum of 4 inches (100 mm) in height.

**405.9.2.2 Barrier.** Barriers shall be constructed so that the barrier prevents the passage of a 4-inch (100 mm) diameter sphere where any portion of the sphere is within 4 inches (100 mm) of the floor.

**405.10 Wet Conditions.** Landings subject to wet conditions shall be designed to prevent the accumulation of water.



Extended Floor Surface

FIG. 405.9.1  
EXTENDED FLOOR SURFACE

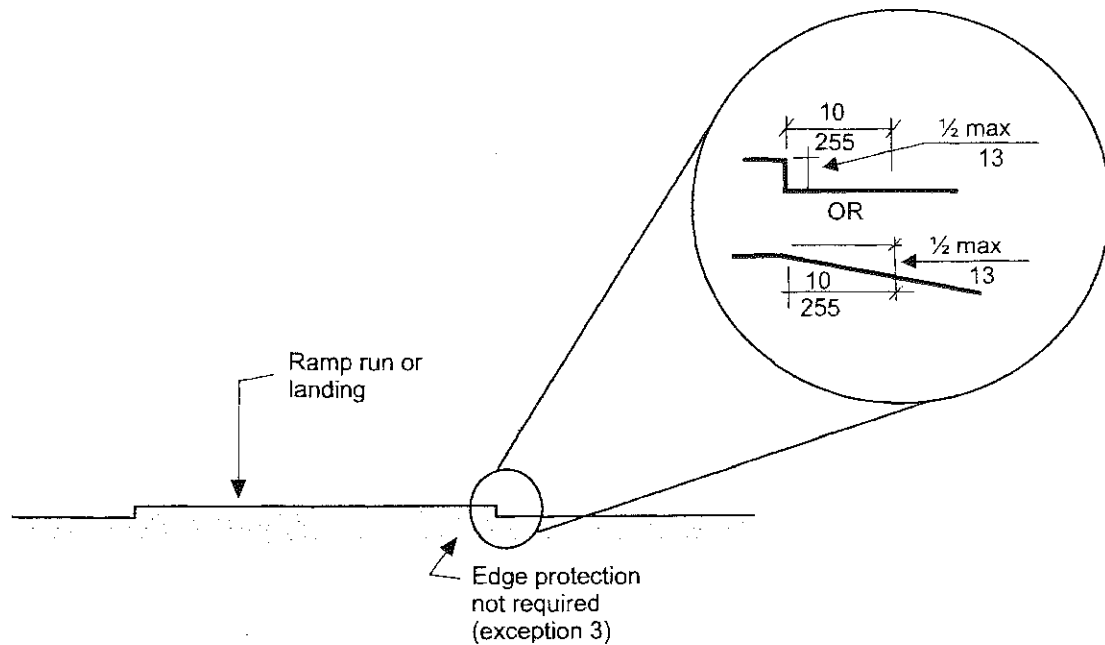
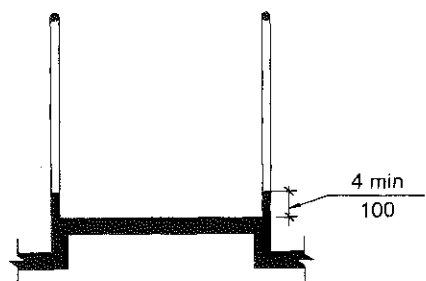
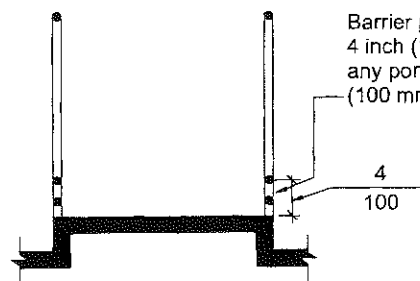


FIG. 405.9  
EDGE PROTECTION—LIMITED DROP OFF



Curb (a)



Barrier prevents passage of 4 inch (100 mm) sphere with any portion within 4 inch (100 mm) of floor.

Barrier (b)

FIG. 405.9.2  
RAMP EDGE PROTECTION