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Barrier Free Access Ramps

This information bulletin explains requirements for barrier free access ramps under the 2012 International Building Code (IBC) and ICC A117.1-2009, effective July 1st, 2013.

A Ramp is required when the change in level of a floor surface is greater than ½ inch within an accessible space or along an accessible route of travel unless an elevator or platform lift provides access at the changes of level.

Slope: Ramps 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 ICC A117.1-2009 Table 405.2 where such slopes are necessary due to space limitations.

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

Slope ¹	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)

¹A slope steeper than 1:8 shall not be permitted.

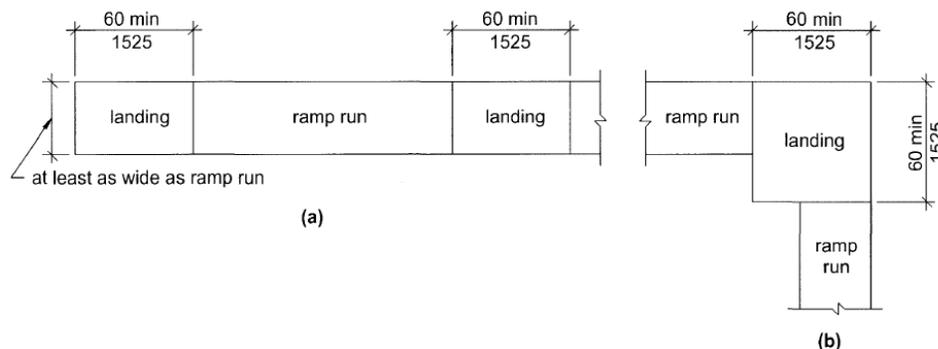
Cross Slope: Cross slope of ramp runs shall not be steeper than 1:48.

Clear Width: The clear width of a ramp run shall be the same as the required width of the corridor as outlined in IBC Section 1018.2, typically 36 inches for interior ramps, and 44 inches for exterior ramps. Where handrails are provided on the ramp run, the clear width shall be measured between the handrails.

Rise: The rise for any ramp run shall be 30 inches maximum.

Landings: Ramps shall have landings at the bottom and top of each ramp run, points of turning, entrance, exits and at doors.

- Landings shall have a slope not steeper than 1:48
- Clear width of landings shall be at least as wide as the widest ramp run leading to the landing
- Landings shall have a clear length of 60 inches minimum
- Ramps that change direction at ramp landings shall be sized to provide a turning space complying with Section 304.3 ICC A117.1-2009



**FIG. 405.7
RAMP LANDINGS**

Handrails: Ramp runs with a rise greater than 6 inches shall have handrails on both sides.
Exception: Handrails for ramped aisles are not required when allowed by IBC Section 1028.13.

Continuity: Handrail gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

Exceptions:

1. Handrails within dwelling units are permitted to be interrupted by a newel post at a turn or landing.
2. Within a dwelling unit, the use of a volute, turnout, starting easing or starting newel is allowed over the lowest tread.
3. Handrail brackets or balusters attached to the bottom surface of the handrail that do not project horizontally beyond the sides of the handrail within 1½ inches (38 mm) of the bottom of the handrail shall not be considered obstructions. For each ½ inch (12.7 mm) of additional handrail perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of 1½ inches (38 mm) shall be permitted to be reduced by ⅛ inch (3 mm).
4. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.

Height: Handrail height, measured above finish surface of ramp slope, shall be uniform, not less than 34 inches and not more than 38 inches.

Clearance: Clear space between a handrail and a wall or other surface shall be a minimum of 1½ inches. A handrail and a wall or other surface adjacent to the handrail shall be free of any sharp or abrasive elements.

Extensions: Handrails shall extend beyond and in the same direction of ramp runs. Handrails shall extend horizontally above the landing 12 inches minimum beyond the top and bottom of ramp runs.

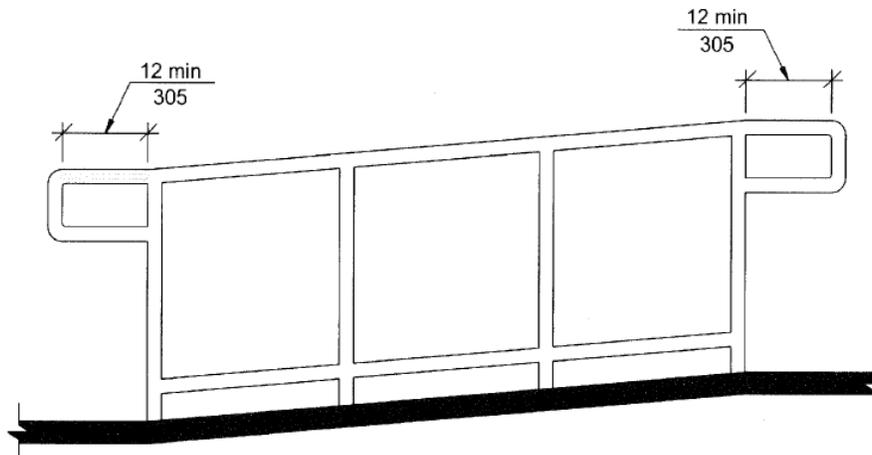


FIG. 505.10.1
TOP AND BOTTOM HANDRAIL EXTENSIONS AT RAMPS