



Coffee Break Training - Fire Protection Series

Means of Egress: Ramps in the Means of Egress

No. FP-2010-50 December 14, 2010

Learning Objective: The student shall be able to identify the dimensional requirements for ramps within the means of egress.

Elevation changes in the means of egress can be accomplished by stairs or ramps. Ramps, such as the one illustrated, may be a preferred design if the elevation difference is not too severe.

By definition, a ramp is “a walking surface that has a running slope steeper than 1 unit vertical in 20 units horizontal (5-percent slope).” For example, a walking surface that is 40 ft (12.1 m) long and with an elevation difference from start to finish of more than 2 ft (610 mm) would qualify as a ramp.

It is important to note the difference between the definition of a ramp and what the model building codes limit in the means of egress. Ramps used in the means of egress may not exceed 1 unit vertical in 12 units horizontal (8-percent slope). A 30-ft (10 m) long ramp in the means of egress, for example, may not have an elevation change more than 25 inches (635 mm). (There is an exception for steeper ramps in assembly occupancies such as theaters, stadiums, and concert halls.) In areas that are not part of the means of egress, ramp slopes may be as much as 1 unit vertical in 8 units horizontal (12.5-percent slope).

The maximum rise (elevation difference) in any run (length) of ramp is limited to 30 inches (762 mm); therefore, the maximum length of any ramp is 36 ft (11 m) before a landing must be provided. Landings must be provided at the top and bottom of ramps, and must be as wide as the ramp. The landing must be at least 60 inches (1,525 mm) in the direction of the ramp. Where directional changes occur, such as that shown in the photograph, landing must measure at least 60x60 inches (1,525x1,525 mm).

Ramp cross slope, measured perpendicular to the direction of travel, cannot exceed 1 unit vertical in 48 units horizontal (2-percent slope). Ramp surfaces must be made of slip-resistant materials that are securely attached.

For additional information, refer to *International Building Code*[®], Chapter 10, or *National Fire Protection Association (NFPA) 5000*[™], *Building Construction and Safety Code*[™], Chapter 11.



This ramp is part of a means of egress system. Photo courtesy Keith Heckler, Rockville Fire Department, Maryland.



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