

# Fall Protection Standards – Passive Systems

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Fall protection is required for all open-sided platforms, floors or walkways that are 4 feet or higher off the ground or next level. The requirement includes elevated surfaces, such as rooftops, where access is needed for maintenance activities. The standards below outline the design requirements for passive fall protection systems and their components. If an adequate passive system is not in place, an active system of fall protection must be employed such as a fall arrest or restraint system. Active fall protection systems require design and installation oversight by a qualified person.

- OSHA General Industry Standards, 29 CFR 1910 Subpart D - Walking-Working Surfaces
- OSHA Construction Standards, 29 CFR 1926 Subpart M - Fall Protection
- ANSI/ASSE A1264.1-2007, Safety Requirements for Workplace Walking/Working Surfaces and Their Access; Workplace, Floor, Wall and Roof Openings; Stairs and Guardrails Systems

## Guardrails

- Top rail 42 inches high and capable of withstanding a load of at least 200 pounds applied in any direction at any point.
- Midrail at 21 inches high and capable of withstanding a force of at least 150 pounds applied in any downward or outward direction at any point.
- Guardrails must have supports every 8 feet.
- Structural members must be installed so that there are no openings in the guardrail system that are more than 19 inches wide.
- The ends of all top rails and midrails must not overhang the terminal posts, except where such overhang does not constitute a projection hazard.
- If wire rope is used for top rails, it must be flagged at not more than 6-foot intervals with high-visibility material.
- Every ladder way floor opening or platform shall be guarded by a guardrail system on all exposed sides, except at entrance to opening. The entrance way shall be guarded with a self-closing gate opening away from the ladder so that a person cannot walk directly into the opening.
- Materials must be appropriate for the environment. Plastic and fiber-reinforced plastic (FRP) components must not be used when there is a potential for deterioration due to UV exposure.

## Warning lines (includes access paths and designated areas)

- Only use on low-slope roofs (10 degrees or less).
- Lines must be constructed with wire cable or chains of at least 500 pounds tensile strength and flagged with high-visibility material at no more than 6-foot intervals.
- Horizontal members must be 34 to 39 inches high and capable of withstanding a horizontal force of 16 pounds at a point 30 inches high on the stanchions.
- Perimeter lines must be greater than 15 feet from unprotected edges (additional distance requirements when mechanical equipment operation is involved).
- Access path to the designated area must clearly defined with lines meeting the same requirements as warning lines.
- Adequate lighting must be provided to allow users to identify warning lines.

## Skylights

- Skylights, covers or screens shall be of such construction and mounting that they can withstand a concentrated load of 400 pounds OR twice the maximum intended load, whichever is higher.
- Guardrails used in place of skylight screens must meet the requirements of standard guardrail systems.