# SECTION 13.0 | FALL PROTECTION

Hindsight Electric, LLC has the following requirements for fall protection at all our worksites.

## 13.1 | When Fall Protection is Required

When working where there is a hazard of falling more than 6 feet from the perimeter of a structure, unprotected sides and edges, leading edges, through shaft ways and openings, sloped roof surfaces steeper than 7:12, or other sloped surfaces steeper than 40 degrees not otherwise adequately protected. Fall protection is also required when working in boom lifts.

## 13.2 | Fall Protection Types

One of the following four types of fall protection systems will be used when our employees are exposed to fall hazards in excess of 6 feet:

- Standard guardrails, cables, or floor hole covers
- Personal fall arrest system
- Positioning devices
- Fall restraint systems

**Standard Guardrails, Safety Cables, or Covers**

These are the easiest and most cost-effective methods of providing fall protection and have a very high success rate. Standard guardrails, safety cables, floor hole and sky light covers are our preferred means of fall protection on job sites. The following rules will be followed when using them:

1. Railings shall be constructed of wood, or in an equally substantial manner from other materials, and shall consist of a top rail not less than 42 inches or more than 45 inches in height measured from the upper surface of the top rail to the floor, platform, runway or ramp level and a mid-rail. The mid rail shall be halfway between the top rail and the floor, platform, runway, or ramp. "Selected lumber" free from damage that affects its strength, shall be used.
2. Wooden posts shall be not less than 2 inches by 4 inches in cross section, spaced at 8-foot or closer intervals.
3. Wooden top railings shall be smooth and of 2-inch by 4-inch or larger material. Double, 1-inch by 4-inch members may be used for this purpose, provided that one member is fastened in a flat position on top of the posts and the other fastened in an edge-up position to the inside of the posts and the side of the top member. Mid rails shall be of at least 1-inch by 6-inch material.
4. The rails shall be placed on the side of the post that will afford the greatest support and protection.
5. All guardrails, including their connections and anchorage, shall be capable of withstanding a load of 13 pounds per linear foot applied either horizontally or vertically downward at the top rail.
6. Railings receiving heavy stresses from employees trucking or handling materials shall be provided additional strength using heavier stock, closer spacing of posts, bracing, or by other means.
7. Floor, roof, and skylight openings shall be guarded by a standard railing and toe boards or cover. Covering shall be capable of safely supporting the greater of the weight of a 200-pound person or the weight of worker(s) and material(s) placed thereon.
8. Coverings shall be secured in place to prevent accidental removal or displacement, and shall bear a pressure sensitized, painted, or stenciled sign with legible letters not less than one inch high, stating: "Opening--Do Not Remove." Markings of chalk or keel shall not be used.
9. Ladder way floor openings or platforms shall be guarded by standard railings with standard toe boards on all exposed sides, except at the entrance to the opening, with the passage through the railing either provided with a swinging gate or so offset that a person cannot walk directly into the opening.
10. Floor holes, into which persons can accidentally walk, shall be guarded by either a standard railing with standard toe boards on all exposed sides, or a floor hole cover of standard strength and construction that is secured against accidental displacement. While the cover is not in place, the floor hole shall be protected by standard railings.

11. Wall openings, from which there is a drop of more than 4 feet, and the bottom of the opening is less than 3 feet above the working surface, shall be guarded with either a standard rail or intermediate rail or both.
12. An extension platform outside a wall opening onto which materials can be hoisted for handling shall have side rails or equivalent guards of standard specifications. One side of an extension platform may have removable railings to facilitate handling materials.
13. Wall opening protection barriers shall be of such construction and mounting that, when in place at the opening, the barrier can withstand a load of at least 200 pounds applied in any direction (except upward).
14. All elevator shafts in which cages are not installed and which are not enclosed with solid partitions and doors shall be guarded on all open sides by standard railings and toe boards.
15. A full body harness and lanyard are required when using boom lifts.

**Personal Fall Arrest Systems**

Personal fall arrest systems consist of a full body harness and a shock-absorbing lanyard attached to suitable anchorage. They are also an effective means of preventing fall accidents. The system does not actually stop you from falling but catches you and safely stops you from hitting the level below. Fall arrest systems will be our preferred means of protection when standard guardrails, safety cables, or covers are not practical. The following rules, in addition to the manufacturer's requirements and OSHA regulations, will be observed:

1. Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body harnesses shall be made from synthetic fibers except when they are used in conjunction with hot work where the lanyard may be exposed to damage from heat or flame.
2. Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached, or shall be designed, installed, and used as part of a complete personal fall arrest system which maintains a safety factor of at least two; and under the supervision of a qualified person.
3. The attachment point of the body belt shall be located in the center of the wearer's back. The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level, or above the wearer's head.
4. Where practical, the anchor end of the lanyard shall be secured at a level not lower than the employee's waist, limiting the fall distance to a maximum of 4 feet.
5. Harnesses, lanyards, and other components shall be used only for employee protection as part of a personal fall arrest system and not to hoist materials. Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.
6. Hindsight Electric, LLC shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.
7. Personal fall arrest systems shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.
8. Any lanyard, safety harness, or drop line subjected to in-service loading, as distinguished from static load testing, shall be immediately removed from service, and shall not be used again for employee safeguarding.
9. Personal fall arrest systems shall not be attached to guardrails unless the guardrail is capable of safely supporting the load.
10. Each personal fall arrest system shall be inspected not less than twice annually by a competent person in accordance with the manufacturer's recommendations. The date of each inspection shall be documented.
11. Personal fall arrest systems will be rigged such that an employee can neither free fall more than 4 feet, nor contact any lower level.
12. Personal fall arrest systems will bring an employee to a complete stop. They will also limit maximum deceleration distance an employee travels to 3.5 feet and have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet, or the free fall distance permitted by the system, whichever is less.

**Positioning Device Systems**

Positioning device systems are designed to allow employees to work with both hands free at elevated locations. By their very nature, they provide some level of fall protection. They are not as effective as railings or fall arrest systems. Positioning device systems may be used together with a fall arrest system for greater safety. Their use shall conform to the following provisions:

Positioning devices shall be rigged such that an employee cannot free fall more than 2 feet.

Positioning device systems shall be inspected prior to each use for wear, damage, and other deterioration and defective components shall be removed from service.

Body belts, harnesses, and components shall be used only for employee protection (as part of a personal fall arrest system or positioning device system) and not to hoist materials.

The use of non-locking snap hooks is prohibited.

Anchorage points for positioning device systems shall be capable of supporting two times the intended load or 3,000 pounds, whichever is greater.

**Personal Fall Restraint**

Fall restraint systems are designed to prevent the wearer from reaching the edge or danger area and thus prevent them from falling. Body belts or harnesses may be used for personal fall restraint.

1. Body belts shall be at least one and five-eighths (1 5/8) inches wide.
2. Anchorage points used for fall restraint shall be capable of supporting 4 times the intended load.
3. Restraint protection shall be rigged to allow the movement of employees only as far as the sides of the working level or working area.