

Fall Protection: A Matter Of Life And Death

BY JOHN E. SCHUMACHER, CSP
Safety Director,
Assurance Safety Counseling

The Occupational Safety and Health Administration (OSHA) places a high emphasis on fall protection and has for years. Most companies consider fall protection a high priority safety issue. Entire companies have been established for the sole purpose of producing fall protection equipment. Almost every safety conference across North America includes fall protection as a primary topic of training and discussion.

With all of that attention and effort, the majority of construction fatalities are still from employee falls (33 percent). These fatalities are related to falls from roof decks, scaffolding, ladders and general walking and working surfaces.

Fall protection issues effect almost every trade at some point of their operations. The key to prevention is a well-trained work force that can identify fall hazards and apply fall prevention methods that allow them to carry out their operations.

Common fall hazards on jobsites include:

STAIRS

- Access to upper areas requires safety. Stairs are preferred to ladders for access if tools and equipment must be moved.
- All stairs must be equipped with a safety

or hand-rail.

- All stair tread must be filled in. Metal pan stairs should not be used if they are not completely filled in.

LADDERS

- Only approved, heavy-duty ladders should be used.
- Light duty ladders may not be strong enough to hold the employee and the weight of the tools and equipment.
- Access ladders must be adequately secured at the top and the bottom.
- All ladder safety rules and warnings must be followed. This means not standing on the top two rungs of the ladder.

DECK LEVELS

- If working near a floor opening or deck edge, fall protection is needed. Fall protection may include safety railings or use of a safety harness if railings are not available.
 - Only approved anchor points should be used. If employees will be using safety harnesses and related equipment, they must be trained to use the equipment effectively.
- OSHA has established a trigger height of six feet while working on walking and working surfaces. Any employees working in these areas must be protected. Note that the OSHA has a separate scaffolding standard with a trigger height of ten feet.

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FALL PROTECTION SYSTEMS RAILING SYSTEMS

Railing systems consist of a top rail, mid-rail and toe board. Top rails are required to be 42 inches tall, mid-rails at 21 inches and a toe board extending four inches above the floor.

The top rail must be capable of withstanding 200 pounds of force.

Wire rope rails must not deflect more than three-feet when a force is applied. In addition, the top wire rope must be "flagged" every six feet to provide visibility of the location of the rails.


FLOOR HOLE COVERS

A floor hole cover must be secured from movement and marked as a floor hole. In addition, the cover must be capable of supporting at least twice the maximum intended load.

PERSONAL FALL ARREST EQUIPMENT (PFA)

Personal fall arrest equipment is typically used when rails, nets or floor hole covers are not practical. PFA equipment includes a full body harness, lanyard with shock absorber, rope or retractable device. If a rope is used, a rope adjuster or "rope

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falls, from page 10

grab" will be needed to allow for the adjustment in rope length relative to the location of the employee.

A retractable lifeline is a preferred device for adjusting the amount of slack in the line.

Employees must be trained to use the fall protection equipment properly. They must also know the limitations of the equipment.

Anchor points for personal fall arrest equipment must be capable of supporting 5,000 pounds per person attached. Many rules exist regarding proper use of equipment, including not allowing lanyards to be knotted, not attaching a lanyard back to itself and use of double-locking type connectors, among others.

Your safety supplier can usually provide you with training instruction, videos and consulting on proper application on the job.

SAFETY NETS

Safety net systems are mesh devices secured below work areas in need of fall protection. The application of safety nets is more common during the initial structure stage of a building such as decking or

steel erection. Safety net systems have very specific requirements for installation, testing and inspecting.

All employees working on a jobsite must have some degree of fall protection training. A higher degree of training should

be provided for employees using personal fall protection equipment.

Fall protection is a major safety issue that needs to be addressed by your company. Make a plan to provide ongoing safety training and establish appropriate safety policies.

Fall Arrest System Terminology

Personal Fall Arrest System

Any combination of anchorage, connectors, body harness, lanyard, deceleration device or lifeline used to arrest a fall from any working level.

Orthostatic Intolerance

Experienced by workers using fall arrest systems. Following a fall, a worker may remain suspended in a harness. The sustained immobility may lead to a state of unconsciousness. Depending on the length of time the suspended worker is unconscious/immobile and the level of venous pooling, the resulting orthostatic intolerance may lead to death. While not common, such fatalities are often referred to as "harness-induced pathology" or "suspension trauma."

Free-Fall Distance

The vertical distance a user falls before the fall arresting system begins to stop the fall.

Source: *Chicagoland Construction Safety Council*



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