# ToolboxTalks

## Third Talk: Roofing Work Safety

### Job site example

On June 6, 2011, John, a roofing professional, was working near an unguarded skylight installed on the roof of a one-story, commercial building, currently under construction. While installing roofing materials, he came in contact with an unprotected skylight and fell 18 feet to the floor below, fracturing only his right shoulder and rib. **John was extremely lucky!**

Many construction workers die from work activities performed near existing skylights, skylight openings, and other types of roof and/or roof opening hazards. As a result, roofing falls are the leading cause of death(s) on construction work sites. These fatal falls are attributed to: (1) failure to appropriately guard skylights and other existing roof openings, and (2) failure to provide effective fall protection training to workers in **hazard recognition** of serious fall hazards at the job site.

Fall prevention must be provided when working on steep roofs, open-sided floors, landings, or scaffold platforms, etc., whether the work activity is conducted by a general contractor, self-employed contractor, subcontractor or an individual worker.

### What are fall hazards?

- Unprotected leading edge work
- Unprotected wall and floor openings
- Hoist areas
- Uncovered holes
- Roof and elevator openings
- Poor working surface integrity
- Unprotected ramps and runways
- Dangerous equipment
- Form work and reinforcing steel
- Excavations, wells and pits

### What are the results of a fall hazard?

A fall hazard may result in death (fatality) or serious injuries such as permanent paralysis, blunt trauma to the head, broken bones, fractures, or other internal damage.

### How to protect workers from fall hazards:

The **most effective** way to protect workers from falls is to eliminate the fall hazard. If this is not feasible, the employer is required to use at least one of the following:

- Personal Fall Arrest Systems **(PFASs)**, or fall restraints consisting of:

  a) **Anchorage** — A fixed and secured point of attachment for lifelines, lanyards, or deceleration devices capable of supporting 5,000 lbs. Sound anchorages include: structural members, but not standpipes, vents, other piping systems and electrical conduit.

  b) **Body Harness** — Straps which may be secured to the body in a manner which will distribute fall arrest forces over the thighs, pelvis, waist, chest and shoulders, with a means to attach to other components of a PFAS.

  c) **Connectors** — Devices used to couple/connect parts of the PFAS and positioning system devices together, e.g. a carabiner or an integral part of the system such as a dee-ring or buckle (sewn into a body harness) or a locking snap-hook.

  d) **Deceleration Device** — Any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

## INSPECTIONS

Daily inspections are required prior to use of PFASs for wear damage, deterioration or other component defect and if observed, the PFAS must be immediately removed from service.

### Other forms of fall protection systems include:

- Guardrail Systems – 1926.502(b),
- Safety Net Systems – 1926.502(c),
- Warning Line Systems – 1926.502(f),
- Controlled Access Zones – 1926.502(g),
- Safety Monitor Systems – 1926.502(h), and
- Hole Covers – 1926.502(i).

### Fall prevention practices

Who has seen or heard of a worker who sat on a skylight for a break, a drink or a smoke, and then, the skylight breaks, and the worker falls onto the concrete floor below?

Yet we don't even need a skylight, or a floor opening to fall through a roof! We can over-load a roof with materials and equipment until the structure fails, or we may begin to work on an older roof without first inspecting the underside for signs of damage and/or decay.

### What steps do we take to keep us working safely on roofs?

- Use PFASs or other fall protection systems, per the OSHA Fall Protection standard.

- Train workers in hazard recognition and the OSHA Fall Protection standard to properly identify and understand the severity of fall hazards and certify through written record.
- Guard or secure covers over holes with materials of sufficient strength, and write "Hole" over the cover upon observing the fall hazard.
- Provide and use safety monitor systems, warning line systems, or controlled access zones, in accord with the OSHA Fall Protection standard.

## Personal fall arrest systems

When conducting roofing work, there are many ways to prevent fall hazards. If workers use a Personal Fall Arrest System (PFAS), the employer must provide a full body harness, lanyard and/or lifeline, per each worker, and an anchorage point independent of supporting any other platforms, but capable of supporting 5,000 lbs (22.2kN), per each attached worker. Make sure the PFAS fits the worker, and regularly inspect all fall protection equipment to ensure that it's still in good condition. If workers do not routinely use their PFAS, they may neglect routine daily inspection of their equipment — and when required to use their PFAS, a component part may fail!

Falls are the leading cause of death in the construction industry, and even experienced workers can be hurt and killed in falls. Regularly wear your PFAS, stay connected and tie-off to a proper anchorage point at the job site.

## Safety monitor

Workers can use a safety monitor system in conjunction with a warning line system with a low slope roof (4:12 vertical to horizontal, or less), *under 50 feet or less in width.* The safety monitor must be a competent person and have no other duties that could interfere with their responsibility. They are required to work on the same level as the work being performed, and close enough to workers for direct monitoring (visual) and for verbal communication.

### Let's discuss fall protection!

1. Have you received training in OSHA's Fall Protection standard?
2. Construction work at what level(s) require fall protection?
3. What conditions may lead to falls through a skylight, hole or over a ramp?
4. Is there a need to use fall protection at your job site?
5. What should the employer do to ensure that your job sites are free of unidentified fall hazards?
6. What OSHA standard applies?

**Record questions below that you want to ask about this Toolbox Talk!**

**Are you using a hazardous chemical while working on a ladder (such as paint primer or thinner) or performing roofing work (such as asphalt/roofing coating)?**

If so,

**Are Safety Data Sheets (SDSs), formerly referred to as Material Safety Data Sheets (MSDSs), provided for your review?**

**Are SDSs readily accessible?**

**For assistance, contact us. We can help. It's confidential.**

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