Roofing Safety

Safety Meeting Packet

Roofing is associated with multiple hazards including working at heights and from ladders, using power tools, and working around electricity, noise, and extreme temperatures. These are just some of the more common hazards that roofers may face on the job. It is the employer who is responsible for controlling these hazards to prevent serious injury, illness, or death.

Fall Protection

Falls are among the leading cause of work-related injuries and deaths among roofers. Working six feet or more above lower levels puts roofers at serious risk, should they fall. Improper or no training, as well as a lack of fall protection equipment, damaged fall protection equipment, or improper setup will increase the chances of an employee falling from height.

All workers who are exposed to heights must be trained in fall protection. According to OSHA, a competent individual must conduct the training. Training must include how to limit the possibility of a fall by engineering or other controls, information on how to recognize fall hazards, what procedures to follow to minimize them, and how to inspect, erect/disassemble, and maintain the fall protection equipment involved with the work.

When there are changes in work conditions or fall protection systems, re-training is required due to the changes. Re-training is also required when worker performance indicates a need for it.

Personal Fall Arrest System (PFAS)

A personal fall arrest system (PFAS) consists of a harness, a lifeline or lanyard and an anchor. The lifeline or lanyard usually has a deceleration device.

In order for a PFAS to be effective, it must be used properly. The harness must be adjusted to fit snugly. The D-ring attachment for the harness should be centered between the worker's shoulder blades, and the leg straps should be adjusted until they are snug. Body belts are not acceptable in a PFAS because they can cause serious injury during a fall.

The anchorage or anchoring system for a fall arrest system must be able to support 5,000 pounds per worker attached. Any PFAS should be designed, installed, and used under the supervision of a qualified person per OSHA standards. During roofing work, it is important not to attach anchors to sheathing, single trusses, or most guardrails. These are typically not strong enough to meet OSHA's standard. Instead of attaching anchors to sheathing alone, attach an anchor to a structural member by driving the fasteners through the sheathing and into the rafter or truss member below. It is important to follow the manufacturer's instructions when installing anchoring systems.

In the event that fall arrest equipment is subjected to the forces of a fall, employers are responsible to see that the equipment is taken out of service until it has been inspected by a competent person and determined to be suitable for reuse.

Ladders

Each worker must be trained on how to recognize hazards related to ladders and the procedures to minimize those hazards. Secure footing is vital for ladder use.

Ladders must only be used on stable and level surfaces unless they are secured to prevent accidental displacement. It may be necessary to take steps to create a secure footing that will support the ladder without the ladder sinking, shifting, or sliding.

Employers must ensure that areas at the top and bottom of the ladder are kept clear. Ladders must not be placed in areas of traffic, such as driveways or doorways, unless they are barricaded from the traffic or are secured to prevent accidental displacement. As a good practice, employers should train workers to always maintain three points of contact (two hands and a foot, or two feet and a hand) when ascending or descending a ladder. Workers should not carry anything up or down ladders. This could cause them to lose their balance and fall. Workers can use a tool belt or put tools in a bucket and use a rope to pull items up to the working level.

Extension Ladders

Employers must ensure that non-self-supporting ladders are set at an angle that minimizes the chance of the ladder slipping. The general guideline is a 1:4 ratio where the ladder is angled out a quarter of its working height or working length. The working length of the ladder is the distance along the ladder between the foot and the top support. The side rails of the ladder must extend at least 3 feet above the upper landing surface that the worker is trying to access. When such an extension is not possible because of the ladder's length, the ladder must be secured at its top to a rigid support system that will not deflect. It is also required that a grabrail or similar assistive device is installed to assist workers in mounting and dismounting the ladder.

Stepladders

Employers need to ensure that workers use stepladders in the fully open position. Workers must not use the top step of a stepladder as a step, as doing so could lead to serious injury.

Scaffolding

Scaffolds and scaffolding must only be designed by a qualified person and must be constructed and loaded according to the design provided. Only experienced and trained workers should erect, move, dismantle, or alter scaffolds in any way. This work must be supervised and directed by a competent person qualified in scaffold assembly and alterations.

Access

Climbing on or off a scaffold is when workers are most vulnerable to falls. Therefore, employers need to provide safe scaffold access. When scaffold platforms are more than 2 feet away from a point of access, workers must use integral prefabricated scaffold access, direct access from another scaffold or structure, personnel hoist, ramps, walkways, portable ladders, hook-on ladders, attachable ladders, stair towers, stairway-type ladders, or similar equipment.

Platform

Employers must ensure that every platform scaffold level is fully planked or decked between the front uprights and the guardrail supports. The space between adjacent platform units and the space between the platform and the uprights cannot exceed 1-inch wide, unless the employer can demonstrate that a wider space is necessary.

Falling Object Protection

Employers are required to protect other workers from objects falling from scaffolds. The area below the scaffold must be barricaded and workers must not enter the hazard area. Toeboards must be erected along the edge of platforms more than 10 feet above lower levels to protect workers below.

Guardrails

When a scaffold is more than 10 feet above a lower level, workers on that scaffold must be protected from falls. Guardrails are one of the most common ways to provide this protection. To meet OSHA standards, guardrails must be installed along all open sides and ends of these platforms. Depending on the type and age of the scaffold, toprails must be installed between 36 and 45 inches above the platform surface. Toprails must be able to withstand, without failure, a force of at least 100 pounds for single-point and two-point adjustable suspension scaffolds and at least 200 pounds for all other scaffolds.

Training

There must be a qualified person who is designated with training workers on recognizing and controlling hazards associated with the type of scaffold being used. Any worker who erects, moves, repairs, maintains, operates, inspects, or disassembles scaffolds must be trained by a competent person to recognize any hazards associated with these activities as they relate to the scaffold system being used. Training must be provided in a language the workers being trained can understand.

- Employers must re-train workers when:
  - There are changes at the worksite that present new hazards.
  - There are new or different types of scaffold, fall protection systems, falling object protection systems, or other equipment introduced that could present new hazards
  - Worker behavior indicates that the worker has not retained the information presented in the previous trainings.

Electrical Safety

Electrocutions involving roofers usually result from contact with overhead powerlines. Additionally, buried electrical conduits may be uncovered when removing old roofing material, potentially exposing roofers to electric current. Employers can protect workers from electrical hazards effectively by insulation, grounding, or by de-energizing the circuits. If this is not possible, employers should work with local utilities to ensure the safety of their employees.

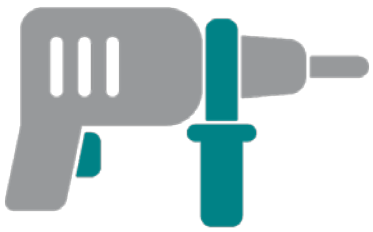
Lifts

To enable workers to work at the edge of a roof, employers may use aerial lifts which allow the worker to stand in the lift basket and complete their work. Only authorized workers are permitted to operate extensible and articulating boom lifts. Employers must ensure that the controls for extending and articulating arms are tested daily before use to be sure that they are functioning safely.

Employers may use forklifts for raising equipment and materials to the roof and, if it is approved by the manufacturer, man-baskets to raise workers. Such safety platforms must be secured firmly to the lifting carriage and/or forks when elevating workers. Employers must ensure that forklift operators are appropriately trained.

Tool Safety

Hand tools, power tools and other equipment used by roofers can be hazardous and may result in severe injuries if used incorrectly. Employers can reduce the risk of injuries by providing training and tool guards for employees.



Power tools (e.g., nail guns, saws, etc.) should have the proper shields, guards, or safety attachments specified by the manufacturer. Employers must ensure that workers using power tools wear appropriate eye protection.

Personal Protective Equipment (PPE)

When there are recognized hazards present, employers have a duty to protect workers. Hazards should be eliminated by engineering or administrative controls. When the hazard cannot be eliminated by these types of controls, employers must ensure that workers wear appropriate PPE when working with:

- Nail guns
- Generator
- Air compressor
- Compressed air
- Shingle stripper
- Tin snips
- Power saw
- Near mobile equipment or traffic, or hazardous substances

Temperature Hazards

Heat Illnesses

Every year, thousands of roofers become sick from occupational heat exposure. Such sicknesses can even result in employee death. These injuries and illnesses are preventable if employees know what symptoms to look for and how to prevent them.

Symptoms of heat illnesses include:

- Throbbing headache
- Dizziness and light-headedness
- Lack of sweating despite the heat
- Red, hot, and dry skin
- Muscle weakness or cramps
- Nausea and vomiting
- Rapid heartbeat or rapid, shallow breathing
- Seizures or unconsciousness

Cold Illnesses

Serious health problems can be caused by prolonged exposure to freezing or cold temperatures as well as excessive heat. In extreme cases, including cold water immersion, exposure can result in conditions from trench foot to frostbite and hypothermia.

In the rarest circumstances, if an employee is unable to get help, cold weather can result in fatalities. Employers need to train workers how to recognize the signs of severe cold exposure, including:

- Uncontrolled shivering
- Slurred speech
- Clumsy movements
- Fatigue
- Confused behavior

Other Weather Conditions

High winds, wet weather, and icy conditions are especially hazardous for roofing employees. Employers need to consider suspending work for those workers who are exposed to extreme conditions during bad weather. This is especially pertinent when working on any roofing surface that can be particularly slippery when wet, like slate, tile, metal, or single-ply membranes.

Worker Safety

Falls account for more serious injuries and deaths in construction than anything else. Accidents occur not only to those building roofs, but also people maintaining, cleaning, demolishing, and inspecting roofs. Any work on a roof is a risk. The type of safeguards provided to make work safe may vary from one job to another. Ensure that all workers are protected from all recognized risks at every jobsite.

Hazards

There are several factors that contribute to avoidable accidents while working on roofs.

- Pitch of the roof – the steeper the pitch, the more difficult it is to maintain your footing.
- Moisture, Dirt, or Sawdust – May cause slippery conditions on the roof.
- Footwear – the traction of shoes/boots varies, always wear good traction shoes/boots.
- Tripping hazards – tools, electric cords, etc. can create a tripping hazard.

Precautions for Workers

- Perform a risk assessment – identify the risks that will be encountered before performing the job tasks.
- Getting on and off the roof – this is a major risk point. A secure way to enter and exit the roof is essential.
- Fall arrest system – Required if a worker may fall from an elevated position. The fall arrest system must be used if the working height is greater than six feet
- Falling Material – maintain a clean and organized workspace on the roof to stop material from falling.
- Training – roof workers need the appropriate training to learn the skills to work safely.
- Weather conditions – work should not occur during rainy, windy, or icy conditions.
- Ladders and scaffolding – make sure anything you climb on is structurally sound and installed properly.

Other Considerations

- Fragile Roof - A fragile roof is one that cannot safely support the weight of a person. A fragile roof may be caused by; thickness of the material, span between supports, or the age of the material. Fragility should be tested before any work is performed.
- Slate and Tile Roofs - Slate and tiles are extremely slippery to stand on, especially when wet. Properly installed crawling boards or other grips need to be installed to work safely on these types of roofs.
- Torch Applied Roofs - Torch applied roofing operations are hazardous. Roofers may sustain serious burns from the torch or from the heat of the asphalt being applied. High temperatures generated during torching can create unseen smoldering fires that may burst into flame later. Ensure all appropriate fire precautions are in place when performing this type of work.
- Welding Thermoplastic Roof Membrane – Burns and electrocutions are hazards with this type of roofing because this type of work uses heat and electricity to weld the membranes together. Use proper precautions to mitigate these hazards.

Safe Work Practices

- Keep your center of gravity low and over your feet.
- Keep your knees bent and be aware of things around you.
- Don't carry too much or have your hands too full.
- Don't drop things or let them roll off the roof.
- Go up and down ladders facing the ladder.

For additional information regarding roofing safety, please consult the following:

- OSHA Standard: 29 CFR 1926, Subpart M - Fall Protection
- OSHA publication 3755 - Protecting Roofing Workers (2015)

Roofing Safety

Safety Meeting Attendance Acknowledgement

Company Name _____

Department / Division _____

Meeting Date & Time _____ _____ ☐ AM ☐ PM

Meeting Location _____

Name & Title of Individual Conducting Meeting _____

Key Meeting Discussion Points / Important Reminders:

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Internal Procedures Reviewed:

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By signing this document, you confirm your attendance at the meeting and acknowledge the issues addressed above!

Employees in Attendance		
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Employees not present: _____

Suggestions/Recommendations to improve workplace safety and health: _____

Actions Taken: _____

Manager/Supervisor: _____ Date: _____

Disclaimer:

The information provided above was assembled using multiple resources. However, these materials do not contain ALL the information available regarding the required safety standards under local, provincial, state, or federal law for your industry.