

## Safe Work Practices on Snow-Covered Roofs

During the winter months, there may be times when it is necessary to have work done on a snow-covered roof. Perhaps you need to make emergency roof repairs or service roof-mounted equipment. If snow has accumulated, you may need to remove it to prevent roof collapse. Working on a snow-covered roof poses significant dangers, including serious falls and exposure to extreme cold.

These guidelines will help ensure that your business has proper controls in place to help minimize the risks of working on snow-covered roofs.

### Planning and Preparation

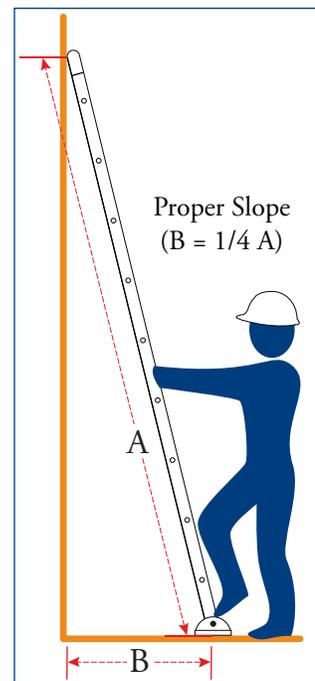
As you develop a plan for roof work under these special conditions, consider the following questions:

- *What special tools, equipment, protective devices, clothing, and footwear will be needed?*  
Make sure all the necessary gear is on hand and ready for use.
- *Do you have a means of safely elevating mechanized snow removal equipment to the roof?*  
Remember that employees will be working under adverse conditions during severe weather.
- *What type of fall protection will you need?*  
Guardrails, nets, or a personal fall-arrest system for each worker may be needed, depending on roof configuration and existing fall protection already installed.
- *Are there special hazards on the roof that will be hidden from view by the snow?*  
Before the snow falls, mark skylights, roof drains, vents, and other hazards or obstructions so that workers will be able to see and avoid them.

- *How will workers get on the roof?*  
Develop a plan for keeping all roof access points clear of snow.

### Roof Access

- If access is from the interior, such as through a penthouse door or hatch, snow build-up may make the route impassable or lead to injuries when workers attempt to force the door open. Plan alternative methods of roof access.
- If access is from a fixed ladder on the building exterior, snow and ice may build up on ladder rungs and create a serious fall hazard. The first person up the ladder should observe the rung conditions, clear off snow, and use a hammer to knock any ice off the rungs.
- If access is from portable ladders, set them on stable footing at the proper angle to the building. The horizontal distance between the base of the ladder and the building should equal one-quarter of the working length of the ladder, or 1H:4V. Secure ladders at the top and base to prevent movement, and be sure they extend at least three feet above the roof. Refer to the Loss Control Reference Note *Portable Ladders* (LC 858), for more information.



- Regardless of the ladder type, instruct workers to use the “Three-Point System,” keeping two hands and one foot, or two feet and one hand in contact with the ladder at all times.
- Use a hand line or rope to hoist tools or shovels to the roof. Never allow workers to carry large tools or shovels up a ladder.

### **Exposure to Cold**

- Teach workers the warning signs of over exposure and hypothermia.
- Make regular temperature and wind chill checks to prevent workers from being exposed to the cold for too long.
- Rotate workers to reduce their individual exposures to cold and to back injuries from shoveling snow.

### **Mechanized Equipment Use**

- Read, understand, and follow all manufacturers’ instructions for the safe use of snow blowers and similar mechanical equipment.
- Ensure that powered equipment is not used within 10 feet of any roof edge.

- Check with a roofing contractor before using mechanized equipment on the roof to ensure the equipment will not damage the roof membrane
- Instruct workers to operate equipment at reduced speeds due to slippery roof conditions.
- Melting the snow in lieu of removal may cause localized overloading of the roof. Check with a structural engineer before using water or a heating device to melt the snow. Safe roof snow removal can be achieved only if you combine thorough preparation with trained workers, proper protection, well-maintained equipment, and a healthy respect for the outdoor elements.

### **References**

OSHA Construction Regulations (1926) and (1910.23(c))  
 Liberty Mutual Loss Control Reference Note, *Portable Ladders*, LC 858.

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