

Roofing Safety

Each year in New Brunswick, serious accidents happen on sites where roofing work is conducted. Many of these accidents are falls from elevations. With the proper precautions, equipment and training these falls could be prevented.

Yet, even if they are a common occurrence, the risk of falling is not the only danger lurking on a roofing site. The following is a reminder to workers, employers and sub-contractors of the safety regulations relevant to roofing work. These regulations are part of the Occupational Health and Safety (OHS) Act's General Regulation (Reg.) 91-191.

People fall because...

... they are in a hurry. A quickly assembled scaffold or an unsecured ladder can cause a fall. Don't be in such a hurry that you don't ensure your safety. Take the necessary measures and precautions. You will then be able to concentrate fully on your task and finish it, without accident.

... they are uncomfortable. While the cold may reduce sensitivity and mobility of your limbs and the heat may cause dizziness – both will affect your stability and reduce your ability to catch yourself from falling if you lose your balance. In the same way, working in an uncomfortable position for a lengthy period can reduce your blood circulation and make you more prone to losing your balance and falling.

... their brain tricks them. To maintain your balance, you need a visual point of reference. When you work in an elevated area, your brain may take moving clouds or traffic below as a reference and trick your body into feeling like it's moving. This really brief sensation may cause you to lose your balance.

... they have a false sense of security. Often, fall protection is not used because workers are not afraid of falling, or don't want to look fearful in front of co-workers. Don't make this mistake! The one who is not fearful, and the one who is, both fall at the same speed and can equally hurt themselves. Fearful or not, ensure your safety.

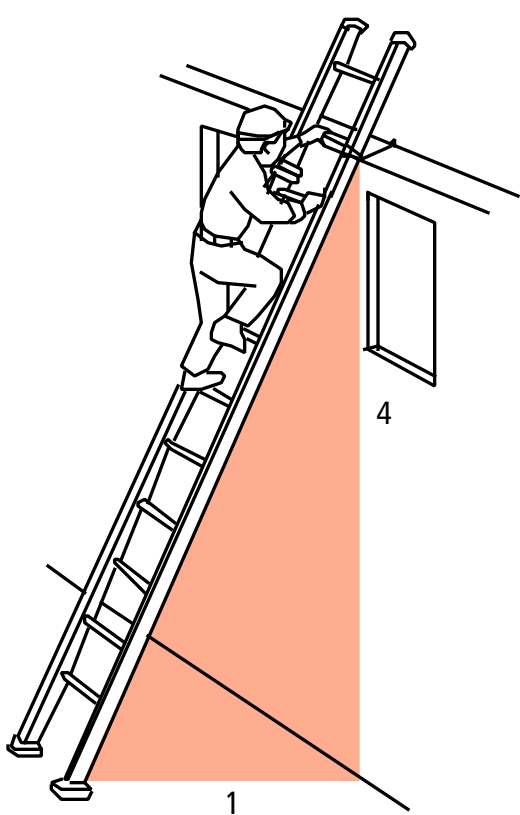
Guardrails

Guardrails represent the best method of protecting workers around roof edges. They should be installed as close as possible to the open edge and be able to withstand whatever loads are likely to be applied against them. A job-built guardrail should consist of a top rail between 90 cm and 107 cm high, a mid-rail placed half-way between the top rail and the floor, and a 12.7 cm high toeboard, not more than 0.6 cm off the floor. Vertical supporting posts should not be more than 2.4 m apart. Guardrails should be inspected regularly to ensure they are kept in good condition. (OHS Act, Reg. 91-191, sec. 97 – 100)



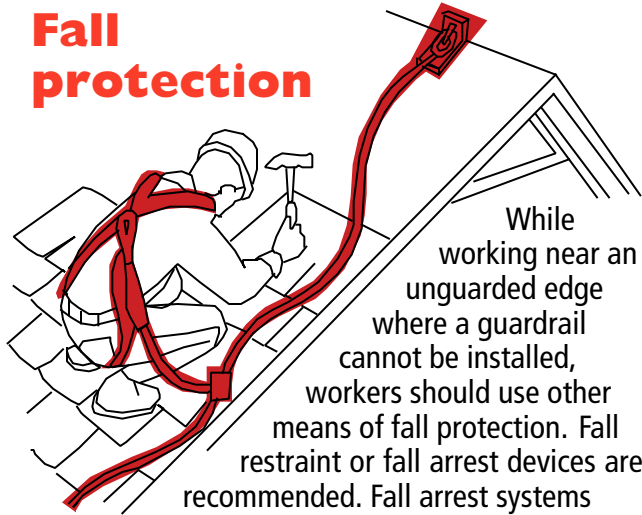
Ladders

Before using a ladder, make sure it is well secured. The distance between the wall and the ladder should be equal to 1/4 of the ladder's height, and its side rails extended to at least 1 m above the landing. Always face the ladder and maintain a three-point contact when climbing up or down. Never carry tools or materials when doing so. It is important that your ladder be CSA approved. (OHS Act, Reg. 91-191, sec. 122 – 126)



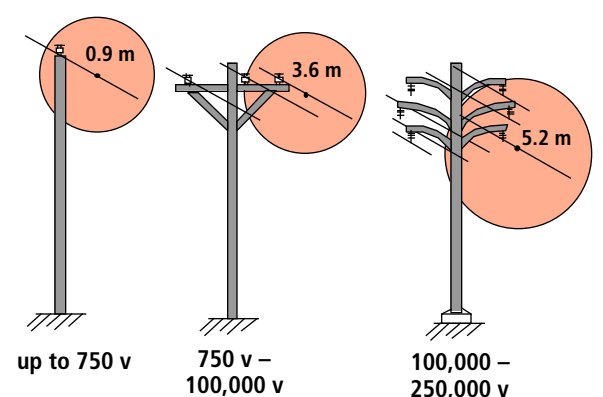
Fall protection

While working near an unguarded edge where a guardrail cannot be installed, workers should use other means of fall protection. Fall restraint or fall arrest devices are recommended. Fall arrest systems must include a solid anchor point and a full-body harness and not allow the worker to fall more than 1.2 m. Fall restraint systems should include a lifeline attached to an anchor and a safety belt or harness that prevents the worker from reaching the edge of the roof. Workers should make sure that the harness or belt fits properly and that all components of the fall protection system are maintained in good condition. (OHS Act, Reg. 91-191, sec. 49 and 50)



Electrical safety

Roofing work often means having to work near overhead electrical lines. Workers and equipment must remain at a safe distance from electrical wires – including wires that bring power into the building. This minimum distance varies according to the electrical voltage:

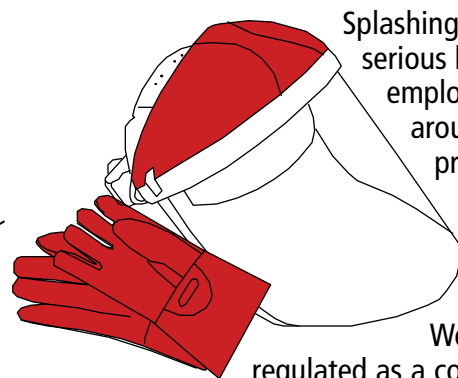


- 0.9 m for lines up to 750 v,
- 3.6 m for lines 750 v to 100 000 v, and
- 5.2 m for lines 100 000 v to 250 000 v. (OHS Act, Reg. 91-191, sec. 289)

If you have to work within those prescribed limits, contact the appropriate power utility to get the electrical lines insulated or de-energized.

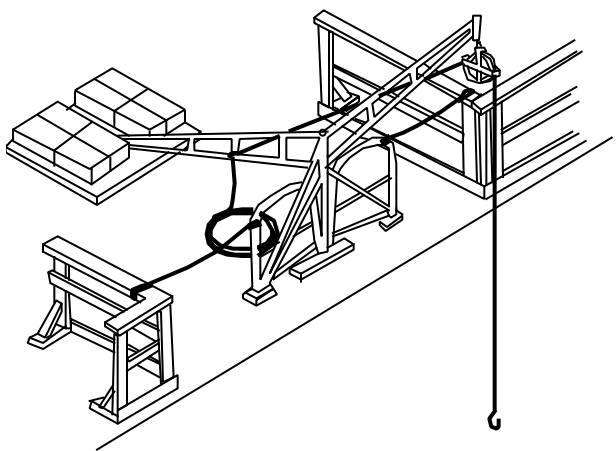
Personal protective equipment

Splashing hot bitumen is a serious hazard to employees working around tar pots. To prevent burn injuries, workers should wear face shields and proper gloves. Work on a roof is regulated as a construction site – workers must wear steel-toed boots and hard hats at all times. In order to prevent heat or cold stress (OHS Act, Reg. 91-191, sec. 22 – 23), clothing should be appropriate to the climate. Long-sleeved shirts and long pants should be worn, even during the summer.



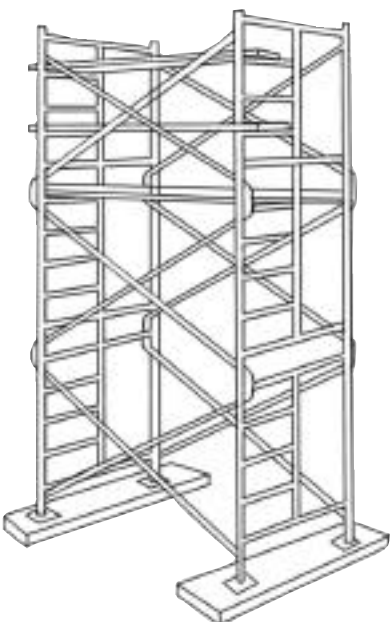
Material handling*

Hoists should be sufficiently strong and stable, and equipped with the suitable fittings, to ensure the safety of workers using it and of those working in the vicinity. Make sure the weights used to counterbalance the hoist are adequate for the equipment used and secured to the hoist to prevent their removal. Guardrails, or safety fences manufactured as part of the hoist, should be installed to mark a safety perimeter around the hoist and the dumping areas. (OHS Act, Reg. 91-191, sec. 109 and 110)



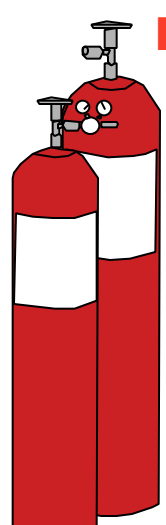
Scaffolding

Always check that scaffolding is solid and stable before accessing it. To be safe for the workers, a scaffold must have all its components: all cross braces and a back rail between 90 cm and 1.07 m high from the floor level. (OHS Act, Reg. 91-191, sec. 131 – 140) However, if the scaffolding is used for fall protection purposes on a sloped roof, it should be equipped with the proper guardrail and secured to the building.



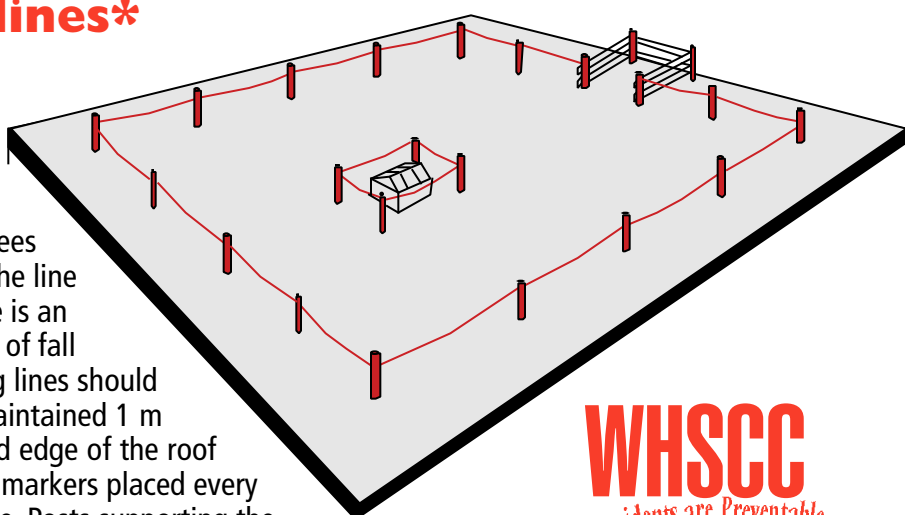
Propane

Propane cylinders used to provide fuel for tar pots should be upright and secured to prevent falling. They should be kept where they won't be struck by falling materials or moving equipment, and at a safe distance from readily ignitable substances. Propane cylinders should never be dragged, slid, subjected to rough handling or hoisted by their collars. Use a hoisting cradle to lift or lower cylinders from one level to another. (OHS Act, Reg. 91-191, sec. 74 – 79)



Warning lines*

In cases of weatherproofing work, warning lines and a competent person monitoring employees working between the line and the roof's edge is an acceptable method of fall protection. Warning lines should be installed and maintained 1 m from the unguarded edge of the roof with readily visible markers placed every 1.5 m along the line. Posts supporting the line should be sufficient to keep it taut at a height between 75-90 cm. (OHS Act, Reg. 91-191, sec. 105 – 108)



In case of an emergency

While on a roof, workers should be equipped to deal with emergency situations. Suitable fire extinguishers and a complete first-aid kit (OHS Act, Reg. 91-191, sec. 12) should be located on the roof and readily available to all employees.



Emergency plans should be in place in case of serious injury or fire.

Don't forget training!

Diligence over the work process and equipment go a long way towards preventing injuries. However, true success requires employees to be fully trained and made aware of work hazards.

*Note:

Sections 105 to 110 of Regulations 91-191 only apply to the weatherproofing of a roof such as the application of tar, gravel, insulation or membrane material.

WHSCC
All Accidents are Preventable

Workplace Health, Safety and Compensation
Commission of New Brunswick