

Each year in New Brunswick, serious accidents happen on sites where work is conducted on a roof. Many of these accidents are falls from elevations. With the proper precautions, equipment and training, these falls could be prevented. However, the risk of falling is not the only danger lurking on a roofing site. The following is a reminder to workers, employers and subcontractors of the occupational health and safety regulations relevant to roofing. These regulations are part of the *Occupational Health and Safety (OHS) Act's General Regulation (Reg.) 91-191* and *First Aid Regulation 2004-130*.



ROOFING SAFETY GUIDELINES

**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 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!**

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. Your ladder should be a heavy-duty or construction grade model and be approved by the Canadian Standards Association (CSA) [Subsection 111(3) and sections 122–126, *Reg. 91-191*].

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 guardrail [Subsection 50(4), paragraph 97(2)(d) and sections 131–140, *Reg. 91-191*].

FALL PROTECTION

While working near an unguarded edge where a guardrail cannot be installed, workers need to use another means of fall protection such as travel-restraint, fall-restricting or fall-arresting systems. 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 harness that prevents the worker from reaching the edge of the roof. Workers need to make sure that the harness fits properly and that all components of the personal fall protection system are maintained in good condition. In certain circumstances, the employer or contractor may be required to develop a code of practice and provide instruction to the workers affected by the code.

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 [Sections 74–79, *Reg. 91-191*].

MATERIAL HANDLING

A hoist should be 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 [Section 109 and 110, *Reg. 91-191*].

POST-FALL RESCUE PROCEDURES

The employer or contractor must develop a rescue plan to rescue a worker who may become suspended. The employer or contractor must ensure workers are competent in the procedures to be followed.

CONTROL ZONE

A control zone is the area between an unguarded edge and a warning line which represents a safe distance (no less than 1 m) from the edge. During weatherproofing work on a flat roof, a control zone supplemented with a safety monitor, who is experienced in the work being done and trained in their role, can be used as a means of fall protection. For non-weatherproofing work, a control zone with warning lines no less than 2 m from the edge can be used. In this instance, for work within the control zone, the accepted means of fall protection are guardrails, travel restraint, fall arrest and safety nets.

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 halfway 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 [Section 97–100, *Reg. 91-191*].

PERSONAL PROTECTIVE EQUIPMENT

Splashing hot bitumen is a serious hazard to employees working around tar pots. To prevent burn injuries, the *OHS Act* requires workers to wear face shields and proper gloves [Section 39, paragraph 42(a) and subsection 43(1), *Reg. 91-191*]. Work on a roof is regulated as a construction site – workers must wear hard hats and steel-toed boots at all times [Subsection 40(1) and 41(1), *Reg. 91-191*].

To prevent heat or cold stress, clothing should be appropriate for the climate [Section 44, *Reg. 91-191*]. Long-sleeved shirts and long pants should be worn, even during the summer.

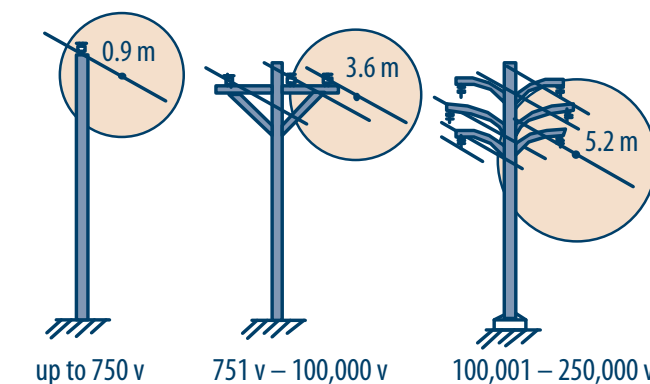


ELECTRICAL SAFETY

Roofing 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 751 v to 100,000 v
- 5.2 m for lines 100,001 v to 250,000 v [Section 289, *Reg. 91-191*].



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



IN CASE OF EMERGENCY

While on a roof, workers should be equipped to deal with emergency situations. Suitable fire extinguishers and a complete first aid kit [*First Aid Regulation 2004-130*] 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 toward preventing injuries. However, true success requires employees to be fully trained and made aware of work hazards.

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