

Safety Facts: Ladder Safety*



Fall injuries are a major source of injury in BC both at home and at work. Most of these falls could be avoided with the application of some simple ladder safety work procedures.

Even falling from less than 6 feet can lead to spinal and head injuries. The reaction time of an average person is 0.7 seconds—in that time you will fall 4 feet. A person weighing 160 pounds falling 8 feet will hit after 1.4 seconds with 7200 pounds of force. Many serious injuries occur from falls from improvised devices such as office chairs, and plastic pails.

Taking a few moments to review the items below could prevent you from having to deal with the life changing consequences of a fall.

Key Points to Understand

- Fall prevention from a ladder is in the evaluation of the task, knowing the length and location of it and what materials and tools will be required to complete the task.
- Know what hazards are present that need to be addressed.
- Select the size and type of appropriate equipment that will meet the above requirements, step ladder (A- frame), extension ladder, picking ladder (three legs) rolling staircase.
- Appropriate PPE such as fall protection harness lanyards and anchors, high vis apparel, footwear as well as barricade tape and traffic control equipment.
- Inspect the equipment you select to ensure it has the required rating and is in safe condition.

- When placing a step ladder test its stability to ensure it is secure (4-point contact of feet with ground surface).
- Test extension ladder, stability to ensure it does not rock (4-point contact two feet on ground surface two beams on building surface or roof). Ensure it extends a minimum of 4 feet past the surface to access, secure the ladder at base, or have someone hold the ladder base from behind the ladder while climbing.
- When climbing or working off any ladder use a 3-point contact method, always having at least one hand two feet or two hands and one foot contacting the rungs of the ladder.
- If you cannot maintain 3-point contact put on a fall protection harness and tie off to a suitable anchor, to give you protection from falling.
- To prevent overreaching when working off a ladder always keep your center of gravity between the beams of the ladder. (keep your belly button inside the beams!)
- Only one person on a ladder at a time.

Safety System Requirements

- Ensure that workers receive the necessary training, mentoring and supervision to use site specific ladder, scaffolding, and fall protection equipment safely. (see OHSR part 13.2- 13.6 for more information)
- Ensure that hoisting systems are available to move materials and tools to work areas as carrying them up the ladder will compromise 3- point contact requirements.

- Assess the work area for site hazards such as, ground conditions, lighting, electrical hazards, mechanical hazards (for example chain drives are not required to be guarded if they are above 8 feet) mobile equipment or pedestrian traffic (doors opening onto ladder) changing weather if outdoors, snow, rain, lightning storms and aluminum ladders are a bad combination.
- Ensure that ladders on site are inspected regularly to ensure they meet site load ratings, are in good working condition, are the type required for work being carried out (for example non-conducting for electrical work) and are removed from service if damaged.

Preventative Next Steps

- Ladders are designed for temporary access only, if regular access is required install stairs or fixed ladders and guardrails.
- Consider special tools such as extendable poles for changing light bulbs, chains that allow opening or closing of valves from ground level, or relocating control devices to ground level to eliminate ladder usage for these tasks.
- Consider the rental or purchase of mobile aerial lifts such as scissor or boom lifts when projects will require extensive working at height.
- Ensure fall protection requirements are addressed early in the planning stage of projects prior to budgeting.



For additional resources visit:

[Work Safe BC](http://WorkSafeBC.com)

