

# LADDERS

## Major causes of accidents

- Ladders are not held, tied off, or otherwise secured.
- Slippery surfaces and unfavourable weather conditions cause workers to lose footing on rungs or steps.
- Workers fail to grip ladders adequately when climbing up or down.
- Workers take unsafe positions on ladders (such as leaning out too far).
- Placement on poor footing or at improper angles causes ladders to slide.
- Ladders are defective.
- High winds cause ladders to topple.
- Near electrical lines, ladders are carelessly handled or improperly positioned.
- Ladder stabilizers are not used where appropriate.

## Proper Use of Ladders

- Check the ladder for defects at the start of a shift, after it has been used in another location by other workers, or after it has been left in one location for a lengthy period of time. (See the end of this chapter for inspection procedures.)
- Areas surrounding the base and top of the ladder should be clear of trash, materials and other obstructions since getting on and off the ladder is relatively more hazardous than other aspects of use.
- The base of the ladder should be secured against accidental movement. Use a ladder equipped with non-slip feet appropriate for the situation, nail a cleat to the floor, or otherwise anchor the feet or bottom of the side rails
- The ladder must be set up on a firm level surface
- The top of the ladder should be tied off or otherwise secured to prevent any movement. If this is not possible, given the type of ladder or circumstances of its use, one worker should hold the base of the ladder while it is being used.
- If a ladder is used for access from one work level to another, the side rails should extend a minimum of 900 millimetres (3 feet) above the landing. Grab rails should be installed at the upper landing so that a worker getting on and off the ladder has secure handholds.
- All straight or extension ladders should be erected at an angle such that the horizontal distance between the top support and the base is not less than one-quarter or greater than one-third the vertical distance between these points .
- Before setting up straight or extension ladders, check the area for overhead power lines. Ladders made of aluminum or other conductive material should never be used near power lines. Only competent electricians and linemen using ladders made of non-conductive material are allowed to work in close proximity to energized electrical lines.
- Portable ladders should never be used horizontally as substitutes for scaffold planks, runways, or any other service for which they have not been designed.
- When a task can only be done while standing on a portable ladder, the length of the ladder must be such that the worker stands on a rung no higher than the fourth from the top. The ladder should also be tied off or equipped with a suitable stabilizer.
- Short ladders must never be spliced together to make a longer ladder. Side rails will not be strong enough to support the extra loads.
- Straight ladders should not be used as bracing, skids, storage racks, or guys. They were not designed for these purposes and the damage caused by such abuse can later result in an accident during normal use.
- Unless suitable barricades have been erected, ladders should not be set up in passageways, doorways, driveways, or other locations where they can be struck or displaced by persons or vehicles using the access route.
- Only one person at a time should be allowed on a single-width ladder. In the case of a double-width ladder, no more than two people should be allowed on it at one time and each should be on a separate side.
- Ladders should not be placed against flexible or movable surfaces.
- Always face the ladder when climbing up or down and when working from it.
- Maintain 3-point contact when climbing up or down a ladder. That means two hands and one foot or two feet and one hand on the ladder at all times. This is especially important when you get on or off a ladder at heights
- When working from a ladder, keep your centre of gravity between the side rails. A person's centre of gravity is approximately in the centre of the body at belt height. The location of your centre of gravity can shift when you reach out to either side of a ladder, especially with materials, tools, or equipment in your hands. As the centre of gravity of your body and hand-held objects moves beyond the side rails, the ladder is tending toward instability.
- Whenever possible, avoid climbing up or down a ladder while carrying anything in your hands. Tools, equipment and materials should be placed in a container and raised or lowered by rope, if necessary.

- Workers should be instructed and frequently reminded to keep their boots free of mud, snow, grease, or other slippery materials if they are using ladders.
- Always hold onto the ladder with at least one hand. If this is not possible because of the task to be done and in particular if the work is 3 metres (10 feet) or more above the floor, the worker must wear a safety harness and tie the lanyard off to the structure or to a lifeline before beginning work.
- Never straddle the space between a ladder and another object

## LADDER USE CHECKLIST

### DO

- Familiarize personnel with your ladder safety policy.
- Use a ladder properly suited to the task.
- Construct job-built ladders properly.
- Inspect ladders before use.
- Erect ladders with the proper slope (between 4:1 and 3:1).
- Avoid placing ladders in areas with high traffic or activity such as walkways, entrances, and exits.
- Tie ladders off at the top.
- Block or otherwise secure the ladder base or have the ladder held by a second worker when in use.
- When outdoors, place the ladder base on firm footings such as compacted soil or mudsills.
- Extend the ladder 900 mm (3 feet) above the top landing.
- Clear material, debris, and other obstructions from the top and bottom of ladders.

### WHEN CLIMBING

- Use a single-width ladder one person at a time only.
- Maintain three-point contact.
- Do not carry anything in your hands.
- Face the ladder.
- Use a fall-arrest system on long ladders.

### DO NOT

- use ladders when a safer means of access is available and practical.
- use metal ladders near live electrical equipment or conductors.
- use ladders horizontally or for some other purpose for which they haven't been designed.
- damage ladders during transport and storage.
- support ladders on their rungs.
- erect long or heavy ladders by yourself.

## LADDER INSPECTION CHECKLIST

	YES	NO
1. Are any wooden parts splintered?		
2. Are there any defects in side rails, rungs, or other similar parts?		
3. Are there any missing or broken rungs?		
4. Are there any broken, split, or cracked rails repaired with wire, sheet metal, or other makeshift materials?		
5. Are there any worn, damaged, or missing feet?		
6. Are there any worn, damaged, or unworkable extension ladder locks, pulleys, or other similar fittings?		
7. Is the rope on extension ladders worn, broken, or frayed?		
8. Has the rope on extension ladders been replaced by material inferior to the ladder manufacturer's original rope?		
9. Are the spreader arms on step ladders bent, worn, broken, or otherwise rendered partly or totally ineffective?		

If the answer is "YES" to any of the questions on the Inspection Checklist, the ladder should be tagged so that workers will know it is defective and should not be used. It should be taken out of service immediately and placed in a location where it will not be used until repairs are completed. If the ladder is not to be repaired it should be destroyed.