

Reed College Portable Ladder Safety Program

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1.0 Purpose and Scope

Portable ladders of various types and sizes are used by faculty and staff on every College campus. An appropriate ladder or step stool always should be used to reach high places; never use chairs, boxes, or other improvised climbing devices. Regulations covering the design, proper care, and use of both portable and fixed ladders used in the workplace are set forth in OSHA's 29 CFR Part 1910.25-27 for general industry and 29 CFR 1926.1053 for construction. They were developed to prevent accidents and injuries caused by faulty equipment and improper use of ladders of all types.

This guide deals with the maintenance and safe use of portable ladders (including extension ladders) and step ladders at the College. It is applicable to any department whose personnel use ladders. It does not address the design specifications for constructing portable ladders nor any of the OSHA requirements for fixed ladders.

The requirements for the safe use of ladders of all types are twofold: use of equipment that is in good repair and following safe work practices. Consequently, all ladders "shall be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect their safe use." (29 CFR 1926.1053) Employees who use any type of ladder in performance of their duties must be trained in ladder safety.

2.0 Ladder Hazards

Some of the more common hazards involving ladders are instability, electrical shock, and falls, most of which can be predicted and prevented. Prevention requires proper planning, correct ladder selection, good work procedures, and adequate ladder maintenance. Prevention tips:

- Do not hand-carry loads on a ladder.
- Do not try reaching so far that you lose your balance; move the ladder.
- Non-skid feet may prevent a ladder from slipping on a hard, smooth surface.
- Do not stand on the ladder's top three rungs.
- A damaged side rail may cause one side of a ladder to give way.
- The base should be spaced 1 foot away for every 4 feet it reaches up.
- Extension ladders need both locks holding to prevent overloading a rail.
- Securely spread open stepladders. Never use a folding stepladder in an unfolded position.
- Electrical shock can occur with metal or wet wooden ladders.
- Do not use items such as a chair, barrel, wheel, or box as a makeshift ladder.

3.0 Ladder Selection

Portable ladders are designed as "one-man" equipment, with the proper strength to support the worker as well as his tools and materials. The three general classes of ladders are:

- Type I Industrial - Heavy-duty with a load capacity not more than 250 pounds.



- Type II Commercial - Medium-duty with a load capacity not more than 225 pounds (suited for painting and similar tasks).
- Type III Household - Light-duty with a load capacity of 200 pounds.

4.0 Ladder Maintenance

Wood ladders should be protected with a clear sealer varnish, shellac, linseed oil or wood preservative. Wood ladders should not be painted, because the paint could hide defects. Check carefully for cracks, rot, splinters, broken rungs, loose joints and bolts and hardware in poor condition.

Aluminum or steel ladders should be inspected closely before use. Replace worn or frayed ropes on extension ladders at once. Aluminum ladders are very corrosion-resistant, but exposing them to fertilizer can cause damage.

Fiberglass ladders should have a surface coat of lacquer that has been maintained.

5.0 Safe Ladder Use

Falls from portable ladders (step, straight, combination and extension) are one of the leading causes of occupational fatalities and injuries.

- Read and follow all labels/markings on the ladder.
- Avoid electrical hazards! – Look for overhead power lines before handling a ladder. Avoid using a metal ladder near power lines or exposed energized electrical equipment.
- Always inspect the ladder prior to using it. If the ladder is damaged, it must be removed from service and tagged until repaired or discarded.
- Always maintain a 3-point (two hands and a foot, or two feet and a hand) contact on the ladder when climbing. Keep your body near the middle of the step and always face the ladder while climbing.
- Only use ladders and appropriate accessories (ladder levelers, jacks or hooks) for their designed purposes.
- Ladders must be free of any slippery material on the rungs, steps or feet.
- Do not use a self-supporting ladder (e.g., step ladder) as a single ladder or in a partially closed position.
- Do not use the top step/rung of a ladder as a step/rung unless it was designed for that purpose.
- Use a ladder only on a stable and level surface, unless it has been secured (top or bottom) to prevent displacement.
- Do not place a ladder on boxes, barrels or other unstable bases to obtain additional height.
- Do not move or shift a ladder while a person or equipment is on the ladder.
- An extension or straight ladder used to access an elevated surface must extend at least 3 feet above the point of support. Do not stand on the three top rungs of a straight, single or extension ladder.



- The proper angle for setting up a ladder is to place its base a quarter of the working length of the ladder from the wall or other vertical surface.
- A ladder placed in any location where it can be displaced by other work activities must be secured to prevent displacement or a barricade must be erected to keep traffic away from the ladder.
- Be sure that all locks on an extension ladder are properly engaged.
- Do not exceed the maximum load rating of a ladder. Be aware of the ladder's load rating and of the weight it is supporting, including the weight of any tools or equipment.
- Do not use items such as chairs, barrels, wheels, or boxes as a makeshift ladder

