missing rungs, side rails, fittings, spreaders, ropes, and safety feet.

Check wooden ladders carefully for cracks, rot, splinters, broken rungs, loose joints, and bolts and hardware in poor condition. Wooden ladders should not be painted.

Aluminum or steel ladders should be inspected for rough burrs and sharp edges before use. Look closely for loose joints, rivets, and bolts, faulty welds, and cracks. Make sure the hooks and locks on extension ladders are in good condition and replace worn or frayed ropes immediately. Deficient ladders should be:

- tagged "out of service",
- removed from service, and
- repaired according to the manufacturer's specifications.
- Do not make improvised ladder repairs.
- If the ladder is not repairable, it should be destroyed.

Ladder Storage

- Store ladders in well ventilated areas to prevent mechanical, gravitational, water, chemical or heat damage.
- Store straight ladders in flat racks or on wall brackets.
- Store step ladders in the vertical, closed position.
- Stored ladders should not create a trip or bump hazard.

Training

Employees should be informed and trained on how to select, safely use and inspect ladders. The information in this Fact Sheet can be used as a guide to inform employees of ladder safety.

Getting Assistance

For additional information about ladder safety or to check out training videos, contact EH&S.

Environmental Health & Safety
P.O. Box 641172
Pullman, WA 99164-1172
(509) 335-3041

Wenatchee 509-663-8181
Tri-Cities 509-372-7163
Vancouver 360-546-9706
Spokane 509-368-6699

http://www.ehs.wsu.edu

Environmental Health and Safety

Consulting Training Service

Portable Ladder Safety: Step by Step

WASHINGTON STATE UNIVERSITY
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Injuries Involving Ladders

Portable ladders are one of the handiest, simplest tools we use. Because of their effectiveness, ladders are used by many different people to perform many different tasks, from reaching overhead office supplies to accessing elevated work surfaces. Although ladders are simple to use, they are often taken for granted. Each year, accidents involving ladders cause an estimated 300 deaths and 130,000 injuries requiring emergency medical attention.

Ladder accidents usually are caused by improper selection, care or use, not by manufacturing defects. Some of the more common hazards involving ladders, such as instability, electrical shock, and falls, can be prevented through proper planning, correct ladder selection, good work procedures and adequate ladder maintenance.

Ladder Selection

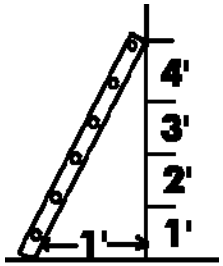
The most important ladder safety rule is to select the appropriate ladder for the job and to use it according to manufacturer's specifications. When selecting the appropriate ladder, consider the type of access and work to be performed.

In general, there are two kinds of portable ladders, step ladders and straight ladders. Portable ladders are designed to be used by one person at a time, with the proper strength to support a worker and his tools and materials. Ladders are constructed under three general classes:

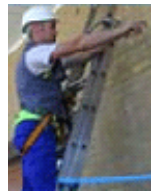
- Type I are heavy duty ladders for construction and industrial use. Type I is rated for 250 lbs., and Type IA is rated at 300 lbs. for extra heavy duty use.
- Type II are commercial ladders, rated for 225 lbs., for medium duty, such as offices and light industrial use.
- Type III are typically household stepladders, rated for 200 lbs., light duty use.

Using Straight Ladders

- Be sure the foot of the ladder is placed on a stable, level surface. Non-skid feet or spurs may prevent it from slipping on a hard, smooth surface.
- If the surface is not stable or level, the ladder should be secured.
- Never place ladders on boxes, barrels, or other unstable bases to obtain additional height.
- Place the foot of the ladder so the distance between it and the wall is equal to ¼ the working length of the ladder.



- Place the head of the ladder on a firm, even surface to support both side rails.
- Straight ladders used to get onto a roof or elevated surface should extend at least three feet above the roof line or surface.
- Extension ladders need both locks holding to prevent overloading a rail.
- The working area around the ladder should also be protected from pedestrian and vehicular traffic.
- If the ladder is placed at a doorway, block the door open or lock it closed.
- Ascend and descend ladders carefully by facing the ladder and using both hands to grasp the rungs or rails hand-over-hand.



- Place feet well forward on each rung and keep your body centered between both side rails.
- Do not stand on the ladder's top three rungs.
- If working directly from the ladder, secure it at the top and bottom.
- Do not try reaching so far that you lose your balance; move the ladder.
- Never carry tools and supplies by hand—use a tool belt/vest or hoist them by rope to the working position.
- Never use metal or wet wooden ladders when working on or near electrical equipment to avoid shock.

Using Step Ladders

- Set all four feet on a firm, level surface and lock the spreaders before climbing.
- Never use a folding step ladder in an unfolded position.
- Keep your body centered between both side rails, and do not stand above the second-to-the top tread. The top cap is **not** a step.

Inspection and Maintenance

Ladders should be inspected before and after each use and after any accident for broken, worn, split, cracked, decayed, loose, or