Portable Ladder Safety

Frequently Asked Questions

What constitutes a portable ladder?

A portable ladder is a ladder that can be readily moved or carried, and has side rails joined at predetermined intervals by steps, rungs, cleats, or rear braces. When properly selected, erected, and used, portable ladders temporarily provide a passageway to other surface levels or the means of support while performing elevated work.

Are there different types of portable ladders?

Portable ladders can be grouped into two distinct groups each with a variety of different ladder types designed for very specific applications. Self-supporting ladders can stand on their own and this group includes step-stools, standard step ladders, platform ladders, double front ladders, trestle ladders, extension trestle ladders, tripod ladders, and orchard ladders. Ladders that cannot stand on their own but require support are known as non-self-supporting ladders. Included in this group are single ladders, extension ladders, and sectional ladders. There are specialty ladders that can be configured as either self-supporting ladders or non-self-supporting ladders. This group includes combination ladders and articulating ladders.



Image key (left to right): standard step ladder, step stool, single ladder, extension ladder, articulated ladder

What hazards are associated with using portable ladders?

There are hazards associated with both the use of portable ladders and the specific applications in which they are used. The use of any portable ladder can expose employees to fall hazards as well as falling object hazards. Application-specific hazards include exposure to the following: electrical power lines, pinch points, splinters, equipment size and weight, wildlife, surface conditions, and environmental conditions such as wind, available light, and the presence of ice/snow.

What factors may contribute to a fall from a ladder?

There are many factors that may contribute to an employee falling from a ladder, including: using defective equipment, not following manufacturer's instructions, exceeding a ladder's rated capacity, the user's state of readiness, poor footing or surface conditions, not controlling a ladder's access zone, not maintaining 3-points of contact while climbing or on a ladder, overreaching (shifting the body's

center of gravity beyond the siderails of the ladder), improper foot placement, improper set-up angle, moving the ladder while on it, lack of an upper support, and stepping off a ladder improperly or without safeguards.

What should be considered when selecting a portable ladder?

The right ladder for a job depends on many factors which must be considered. These include equipment-specific factors such as a ladder's size, support characteristics, duty rating, materials of construction (wood, metal, or reinforced plastic), design style, and footprint. Additionally, users should consider these additional application-specific factors when selecting a portable ladder: the height of the ladder and the target work zone, the weight of the user (including PPE and equipment), surface conditions, and set-up area.

How do I determine a ladder's capacity?

Ladder manufacturers apply informational labels on each ladder. One such label is the duty rating of the ladder. There are 5 recognized ladder duty ratings:

Duty Rating	Ladder Type	Working Load
Light Duty	Type III	200 lbs
Medium Duty	Type II	225 lbs
Heavy Duty	Type I	250 lbs
Extra Heavy Duty	Type IA	300 lbs
Special Duty	Type IAA	375 lbs

When selecting a ladder and its duty rating, users should consider their own weight (including clothing, shoes & PPE) and the weight of any tools & materials taken onto the ladder.

What regulations apply to using portable ladders?

The Oregon Occupational Safety and Health Administration (OR OSHA) has regulations pertaining to portable ladders. These can be found in OAR 1910.23 *Ladders*, as well as 437-002-0026 *Portable Ladders*.

How do I safely set up a portable ladder?

All ladders: Inspect the ladder and worksite and control all hazards before setting up a ladder. Once erected, ensure that the ladder's rungs, steps, or cleats are parallel and level.

Non-self-supporting ladders**:** Position the ladder and ensure it's at an angle of 75.5 degrees from horizontal. This can be achieved in a number of ways including using the free NIOSH CDC Ladder Safety app or calculating a 4-to-1 set-back distance using the formula: Set Back = ¼ (L) where L is the ladder's working height. Additionally, when using this type of ladder to access an upper landing surface, the side rails of the ladder should extend at least 3 feet above the upper landing surface and be tied off to prevent shifting. Verify both lock assembly devices are fully engaged with the rung prior to using an extension ladder.

Self-supporting ladders: Completely open the ladder and lock the spreaders

What should one do, or not do, while on a portable ladder?

To ensure safety, users should always: set up ladder on a solid surface; face the ladder; maintain three points of contact; keep body centered on the ladder; never let their belt buckle pass either side rail; avoid electrical hazards; avoid no-step areas; and follow the ladder manufacturer's instructions.

How should portable ladders be stored?

Properly storing a portable ladder will extend its useful life. Adhere to the following when storing portable ladders regardless of type: store in a well-ventilated area; protect from physical damage; keep away from corrosive materials and heat sources; do not place materials on ladders while they are stored; wood and fiberglass ladders should be stored away from excessive moisture, humidity, and sunlight; non-self-supporting ladders should be stored in flat racks or on a sufficient number of wall brackets that will prevent them from sagging; self-supporting ladders should be stored in a closed position and oriented vertically to reduce the risk of sagging or twisting; ladders stored in a vertical orientation should be secured to prevent tip overs.

How should portable ladders be transported?

When transporting a portable ladder by hand, remember to keep the front end slightly elevated. This is especially important when walking in aisles, through doorways, and around corners. The legs of self-supporting ladders can be wrapped/banded together to prevent them from opening. Due to the size and weight of many ladders, it's a good idea to find someone to help move a portable ladder when doing so by hand.

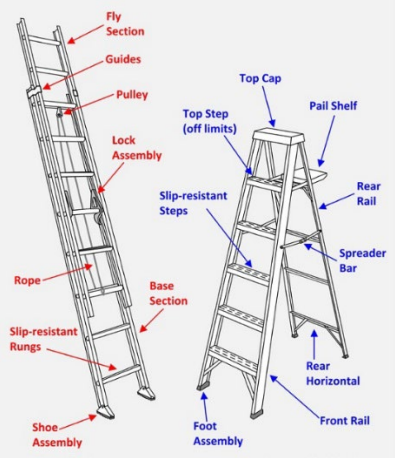
When transporting a portable ladder with a vehicle, secure the ladder to a vehicle mounted rack to prevent movement and damage to the ladder. Be sure to pad any points of contact between the ladder and the rack. Portable ladders can also be transported in the bed of a vehicle. Lay the ladder parallel to the vehicle bed and pad all points of contact. Finally, ensure the ladder is secure to prevent movement and damage.

Are inspections required and if so, who performs them?

Yes, Oregon OSHA requires that portable ladders be inspected prior to use. The user of the portable ladder is the person responsible for inspecting it. Portable ladders are also required to be inspected after any occurrence that could make them unsafe, such as when a ladder has been knocked over. This type of inspection is performed by a competent person, e.g., a supervisor with ladder safety training, to ensure that the ladder is free from defects or damage.

What's involved with inspecting a portable ladder?

Portable ladder inspections involve visually checking each ladder component to ensure it is without defects.



All ladders: check warning labels and duty rating; check for missing/damaged feet or shoes; check the side rails for damage; check rungs/steps for damage; check each rung/step to rail connection; check/remove oil & grease from surfaces.

Self-supporting ladders: check the spreader bar function; check braces and pail shelves; open ladder fully and verify it does not wobble.

Non-self-supporting ladders: when applicable, check guides and locking assemblies; check for proper telescoping function; verify pulley and rope are present.

What should I do if I encounter a damaged portable ladder?

Portable ladders found with damage or defects should be clearly and immediately tagged "Do Not Use" and be removed from service to prevent other employees from using it. The ladder manufacturer should be consulted to determine if any authorized repair facilities are located nearby. If repair is not possible, the ladder should be destroyed before disposal to prevent others from using it.

Are there devices that can attach to portable ladders to make them safer?

Yes. Commercial devices exist that can improve the safety of various types of portable ladders when used in specific applications. These devices include: leg levelers, ladder helpers, step platforms, ladder extensions, pole holders, rafter tie-offs, and stabilizers.



Image key (left to right): leveler, helper, step platform, extensions, pole holder, rafter tie-off, stabilizer.

Is training required to use a portable ladder or a step-stool?

Yes.

What resources are available to better understand all these requirements?

Oregon OSHA has many resources to help employees understand the requirements associated with portable ladder selection, inspection, use, transportation, and storage. PCC offers a comprehensive online course entitled *Portable Ladder Safety* on its learning management system, managed by PSEC.