



THE UNIVERSITY OF MAINE SAFETY AND ENVIRONMENTAL MANAGEMENT

Ladder Use and Inspections

General

“Portable Ladder Use and Inspection” guidelines have been developed to establish recommendations for the safe use of portable ladders by University of Maine personnel. Occupational Safety and Health Administration (OSHA) standards require that all ladders be used appropriately, that a periodic inspection be established for all ladders, and that personnel using ladders be trained in the proper use, limitations, and maintenance of ladders used.

The term portable ladder includes all step ladders, extension ladders, step stools, specialty type ladders (e.g.; trestle ladders; trolley and side rolling ladders) and other portable devices intended or constructed expressly for the purposes of providing access to spaces or materials.

Regulatory Guidance

[Maine Occupational Safety and Health Standards for General Employment in the Public Sector](#)

[Maine Occupational Safety and Health Standards for Construction Employment in the Public Sector](#)

Occupational Safety and Health Administration (OSHA) 29 CFR:

[1910.25 – Portable Wood Ladders \(General Industry\)](#)

[1910.26 – Portable Metal Ladders \(General Industry\)](#)

[1926.1053 – Ladders \(for Construction\)](#)

[1926.1060 – Training Requirements \(for Construction\)](#)

Requirements

General

Ladders must be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect safe use.

All employees using ladders must conduct a pre-use inspection (see below).

Ladders must be appropriate for task and properly maintained where required to provide access to places where employees perform the task.

Use ladders equipped with nonconductive side rails (e.g., fiberglass ladders) if the worker or the ladder could contact exposed energized electrical equipment. Never use a metal ladder or wire reinforced ladder near any electrical conductor or electrified equipment.

The following apply to all ladders as applicable:

- Rungs/steps must be free of grease, oil, or any other substance that would make them slippery.
- Ladders are not be painted with an opaque finish or coated with any material that might hide defects.
- Ladders/step stools must not carry loads beyond written rating
- Only one person at a time may use or work from a single ladder.
- Use ladders only for their designed purpose.
- Keep areas clear around the top and bottom of ladders.
- Face the ladder when climbing up or down.
- Carry items up and down ladders using a pouch, holster, or tool belt. Small, non-bulky items, may be hand carried as long as the items do not impede the ability to maintain full control while climbing or descending the ladder. Ladder users should completely focus their attention on climbing up and/or down a ladder for a safe ascent or descent. Large or heavy items should be pulled up or lowered with a hand line or rope specifically for that purpose.
- Ladder users should maintain at least three points of contact with the ladder. For example, two feet and one hand, or two hands and one foot should be in contact with the ladder at all times.
- Never stand on the top two steps of any ladder.
- Keep your body centered within the frame of the ladder. Do not over-extend your body past the side rails.

Ladder Placement

Place ladders on a level and firm footing. Ensure ladder is rigid, stable, and secure to prevent accidental movement.

Avoid supporting ladder side rails with boxes, loose bricks, or other loose packing to create stability or to attempt to gain extra height.

Avoid placing ladders in front of a door opening unless the door is fastened open, locked, or guarded. Use an effective method (e.g., warning cones, warning signs, barricades) to detour pedestrian traffic away from the ladder to prevent dislodgment or someone walking into or underneath the ladder.

Setting ladders requires proper care and angle. A simple rule for setting a ladder is to place the base out at a distance of $\frac{1}{4}$ the length of the ladder (this is commonly referred to as the 4 to 1 ratio). This means that the bottom of the ladder should be 1 ft away from the wall for every 4 feet that the ladder rises. For example, if the ladder touches the wall at 12 ft above the ground; angle the ladder so that the base is 3 ft from the wall.

Ladders must extend at least 3 ft above any landing place or roof unless grab railings are provided.

Climb down to position or reposition the ladder. Avoid moving, shifting, extending or walking a ladder while you or someone else is standing on it.

Securing the Ladder

Ladders should be securely fixed at the top and bottom so that they cannot move. If it is not possible to secure a ladder at both the top and bottom then it should be securely fixed at the base. If this is not possible, then a person may stand at the base of the ladder and secure it manually against slipping.

Step ladders must be completely spread open and locked before use.

Do not use ladders on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental movement. Non-slip feet are not a substitute for exercising care when placing, lashing or holding a ladder on slippery surfaces.

Pre-Use Visual Inspections

All ladder users must conduct a visual inspection prior to use of the ladder. The inspection shall include:

- Locating label on ladder for commercial use and a certified duty load rating
- Ensuring side rails, braces, steps, rungs are free from splinters, cracks, dents, & bends
- Verifying extension ladder ropes are not frayed, pulleys work smoothly and rung locks operate correctly
- Ensuring ladder is not painted or covered with anything that could hide defects
- Checking for decay, damage, loose nails, screws, bolts, pin, faulty welds, cracks or sheared rivets.
- Checking the joints between the rungs and the side rails for tightness. Joints are loose if the rungs can be moved by hand.
- Verifying rungs or steps are in place.
- Ensuring metal ladder rungs/steps are corrugated or knurled to prevent slipping
- Ensuring ladder rungs/steps are free of grease, oil, or any other substance that would make them slippery.
- Verifying stepladders have a metal spreader or locking device to securely hold the front and back sections in an open position. Ensure spreader does not have any sharp objects protruding from it.
- Ensuring all moveable parts operate freely without binding.
- Checking to ensure that the feet are in good condition and not broken.

Ladders with structural defects or needing repairs must immediately be marked defective or tagged with "Do Not Use" or similar language and withdrawn from service until repaired.

Repairs must be carried out by a competent person to UL and/or manufacturer standards. Where repair is not completed the ladder must be destroyed.

Storage

All ladders, when not in use, shall be secured and not cause a hazard.

Training

Training must be provided by each department to ensure that those UMaine personnel or students using ladders understand the purpose, function, and limitations of ladders to be used. In addition, ladder users who are painting, decorating, renovating, or constructing should be trained by a competent person, as appropriate:

1. The nature of fall hazards in the work area;
2. The correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used, if any;
3. The proper construction, use, placement, and care in handling of all stairways and ladders;
4. The maximum intended load-carrying capacities of ladders; and
5. The regulatory standards that apply (e.g., [29 CFR 1926.1053](#)).

Users should be familiar with information in this document.

An online ladder safety awareness course (suitable for inclusion as part of a departments ladder safety training) is available at the SEM website along with an inspection checklist.

[\(http://www2.umaine.edu/SEM/\)](http://www2.umaine.edu/SEM/)

In addition a train the trainer course for Ladder Safety is available through the Safety & Environmental Management Department.

Retraining must be provided for each employee as necessary.

Responsibilities

Safety and Environmental Management

- Assist departments in ladder selection, upon request.
- Assist departments in developing ladder training.

Department Chairs or Directors

- Provide the appropriate ladders where necessary.
- Ensure that periodic inspections of all ladders are performed.

Supervisors

- Provide the appropriate ladders for employee or student use.

- Provide training for ladder users and document training when required (documentation is required for construction workers). Training is generally provided as part of the Department Annual Safety Training or as part of the course curriculum.
- Ensure that ladders are inspected prior to each use and that unsafe ladders are removed from service and labeled “DO NOT USE!”
- Ensure that ladders that are removed from service and are not going to be repaired are destroyed.

Individual

- Complete ladder safety training, as required.
- Follow all required ladder inspection, use, and labeling requirements.
- Do not use unsafe ladders and immediately report any unsafe and unlabeled ladders to your supervisor for removal from service.

Definitions

Competent Person: An individual, who by way of training and/or experience is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation, is designated by the employer, and has authority to take appropriate actions.

Extension ladder: A non-self-supporting portable ladder adjustable in length. It consists of two or more sections traveling in guides or brackets so arranged as to permit length adjustment. Its size is designated by the sum of the lengths of the sections measured along the side rails.

Maximum intended load: The total load of all employees, equipment, tools, materials, transmitted loads, and other loads anticipated to be applied to a ladder component at any one time.

Portable ladder: A ladder that can be readily moved or carried.

Side-rolling ladder: A semi-fixed ladder, nonadjustable in length, supported by attachments to a guide rail, which is generally fastened to shelving, the plane of the ladder being also its plane of motion.

Step ladder: A step ladder is a self-supporting portable ladder, nonadjustable in length, having flat steps and a hinged back. Its size is designated by the overall length of the ladder measured along the front edge of the side rails.

Step stool (ladder type): A self-supporting, foldable, portable ladder, nonadjustable in length, 32 inches or less in overall size, with flat steps and without a pail shelf, designed to be climbed on the ladder top cap as well as all steps. The side rails may continue above the top cap.

Trolley ladder: A semi-fixed ladder, nonadjustable in length, supported by attachments to an overhead track, the plane of the ladder being at right angles to the plane of motion.

For Additional Information

Contact your Department Safety Coordinator or Safety and Environmental Management at 207-581-4055.

Document History

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