

1. INTENT

This intent of the Ladder Safety Program is to ensure the safety of employees working with ladders. This program complements the University's Fall Protection Program by setting the minimum requirements that all employees must follow when working with ladders.

This policy has been developed in accordance with Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.23.

2. SCOPE

This program applies to all employees of the University at Albany who may be expected to use a ladder during the course of work.

3. RESPONSIBILITIES

3.1 Office of Environmental Health & Safety (EH&S)

- Develop and coordinate implementation of the Ladder Safety Program
- Provide training for the care and use of ladders
- Maintain training records
- Conduct periodic inspections to ensure the continued effectiveness of the program

3.2 Department Supervisor

- Ensure the ladder safety program is being followed by all employees
- Coordinate training with EH&S
- Ensure that all affected employees using ladders have been trained
- Enforce the care, use, and storage of ladders as outlined in the program

3.3 Employees

- Properly select, use, and store ladders in accordance with the procedures in this document
- Thoroughly inspect and maintain ladders before and after use

4. VARIETIES OF PORTABLE LADDERS

4.1 Ladder Material

Ladders are generally available in three material compositions: wood, fiberglass, and metal.

- **Wood:** Wood ladders are electrically non-conductive. However, they can be electrically conductive if wet. Wood ladders are heavier than metal. They are susceptible to drying and rotting and need a clear finish to protect them.
- **Fiberglass:** Fiberglass ladders are strong, lightweight, and electrically non-conductive. They do not dry out and split like wood. They are slow to conduct heat, so they are able to withstand heat exposure without losing strength. Fiberglass may chip or crack under severe impact. When overloaded, fiberglass does not bend; it cracks and fails.
- **Metal:** Metal ladders (aluminum) are very strong and lightweight. They dent, but do not chip or crack when subjected to severe impact. They do not require a protective varnish for protection. They do conduct heat rapidly. If they are exposed to heat, they will lose their tensile strength. They must not be used when working on or near electrical wires or when working around energy sources. Metal ladders must be labeled with a DANGER warning sticker indicating electrocution hazard.

4.2 Ladder Type

- **Stepladder:** A self-supporting portable ladder, non-adjustable in length, having flat steps and a hinged back.
- **Single ladder:** A non-self-supporting portable ladder, nonadjustable in length, consisting of one section.
- **Extension ladder:** A non-self-supporting portable ladder adjustable in length, consisting of multiple sections.
- **Articulated ladder:** A portable ladder with one or more pairs of locking hinges which allow the ladder to be set up in several configurations such as a single or extension ladder, a stepladder, a trestle ladder, or scaffold. The locking positions of the hinges allow setup at the proper angles to accommodate each configuration that the manufacturer has designated.

4.3 Ladder Duty Rating

The American National Standards Institute (ANSI) requires that a duty rating sticker be placed on the side of the ladder. When selecting a ladder, be sure to use the proper duty rating to carry the combined weight of the user and materials. The ladder duty ratings are as follows:

| DUTY TYPE | DUTY RATING | MAXIMUM LOAD |
|-----------|--------------------|--------------|
| IAA | Special Heavy Duty | 375 lbs |
| IA | Extra Heavy Duty | 300 lbs |
| I | Heavy Duty | 250 lbs |
| II | Medium Duty | 225 lbs |
| III | Light Duty | 200 lbs |

5. LADDER CARE, MAINTENANCE, AND INSPECTION

Ladders shall always be maintained in good condition by ensuring the following:

- The joint between the steps and siderails shall be tight.
- All hardware and fittings shall be securely attached.
- Movable parts shall operate freely without binding or excessive play.
- Locks, wheels, pulleys, and other bearings shall be frequently lubricated.
- Frayed or badly worn rope shall be replaced.
- Safety feet and other auxiliary equipment shall be kept in good condition.
- Rungs shall be kept free of grease and oil.
- Wood ladders shall not be painted with an opaque finish or coated with any material that may hide defects. Use only clear varnish.

The user shall inspect the ladder before and after use. Ladders with defects shall be taken out of service immediately and tagged as “Dangerous Do Not Use.”

A sample inspection checklist can be found in **Appendix A** of this document.

6. LADDER STORAGE

When not in use, ladders shall be stored in a designated location out of direct sunlight and not exposed to harmful elements that may cause decay/damage. Never store materials on a ladder. Be sure that ladders are secured when in transit. Vibration and bumping against other objects may cause damage.

7. LADDER SETUP

Prior to climbing, a ladder shall be set up as follows:

- The ladder base must be placed on secure footing. Ladders shall not be placed on boxes, barrels, or other unstable bases to obtain additional height.
- Ladders shall not be used in a horizontal position as a platform, a runway, or scaffold.
- Ladders shall not be placed in front of doors opening toward the ladder unless the door is blocked upon, locked, or guarded.
- The area around the ladders must remain clear from debris, equipment, etc.
- Never place a ladder near exposed electrical wiring or against operational piping (chemical, gas, sprinkler systems) where damage may occur.
- Extension ladders shall be extended from the floor/ground only.
- Position straight/extension ladders so that the siderails extend at least 3 feet above the upper landing.
- Straight/extension ladders shall be used so that the base is a distance from the vertical wall equal to one-fourth the working length of the ladder.
- The minimum overlap for the two-sections on extension ladders shall be as follows:

| Extension Ladder Size | Minimum overlap of ladder sections |
|--|---|
| Up to and including 36 feet | 3 feet |
| Over 36 feet up to and including 48 feet | 4 feet |
| Over 48 feet up to and including 60 feet | 5 feet |

8. CLIMBING AND STANDING

When climbing or standing on a ladder, the following safety precautions shall be followed:

- Make sure shoes are free of mud, soil, or anything slippery.
- When ascending or descending, the user must face the ladder and maintain at least three points of contact with the ladder (two feet and one hand, or two hands and one foot).
- The top two steps of a stepladder shall not be used for standing. The highest working height shall be clearly marked. Do not stand on the pail shelf of a stepladder. Do not straddle the front and back of a step ladder.
- Never stand on the top two rungs of a straight or extension ladder.
- The centerline of the body must be maintained between the siderails of the ladder. Do not lean or reach to either side.
- No more than one person shall be on a ladder at a time unless the ladder is manufactured to support an additional person.
- Do not move, shift, or extend ladders while in use.

9. TRAINING

All employees shall be trained prior to portable ladder use, to recognize hazards and procedures to minimize hazards. Employees shall be trained in the following:

- The recognition of possible hazards associated with ladder use
- Ladder inspection and maintenance
- The proper use and placement of ladders
- The maximum intended load capacities of ladders used.

Employees shall be retrained as necessary to maintain their understanding and knowledge on the safe use of ladders.

APPENDIX A

Sample Ladder Inspection Form
(Provided by Werner Co.)

Ladder Inspection Form

Provided by Werner Co.

Company Name: _____
Please Print

Ladder Reference Number: _____ Dept. _____

Inspector _____ Date. _____



Stepladder

Size _____ ft.

Fiberglass

Aluminum

Wood



Circle Areas of Damage

Steps: Loose, Cracked, Bent or Missing

Rails: Cracked, Bent, Split or Frayed
 Rail Shields

Labels: Missing or Not Readable

Pail Shelf: Loose, Bent, Missing or Broken

Top: Cracked, Loose or Missing

Spreader: Loose, Bent or Broken

General: Rust, Corrosion or Loose

Other: Bracing, Shoes, Rivets

Yes No

Actions:

Ladder tagged as damaged & removed from use

Ladder is in good condition

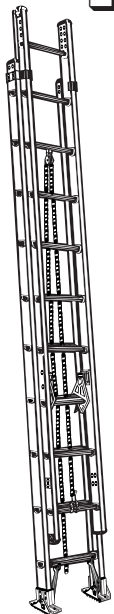


Extension Ladder

Size _____ ft.

Fiberglass

Aluminum



Circle Areas of Damage

Rungs: Loose, Cracked, Bent or Missing

Rails: Cracked, Bent, Split or Frayed

Labels: Missing or Not Readable

Rung Locks: Loose, Bent, Missing or Broken

Hardware: Missing, Loose or Broken

Shoes: Worn, Broken or Missing

Rope/Pulley: Loose, Bent or Broken

Other: Bracing Rivets

General: Rust, Corrosion or Loose

Yes No

Actions:

Ladder tagged as damaged & removed from use

Ladder is in good condition

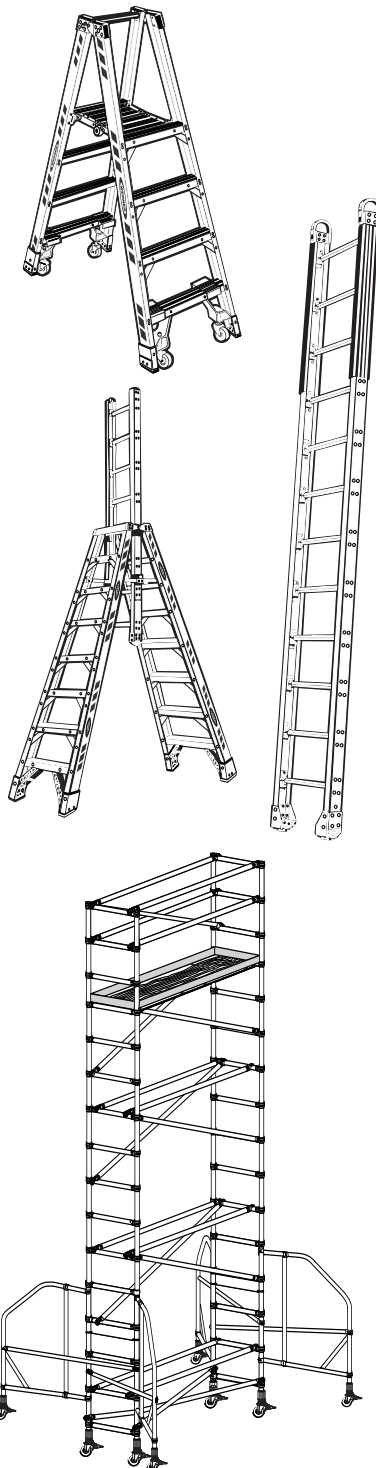
Ladder Inspection Form Provided by Werner Co.



Specialty Ladder

- Fiberglass
 Aluminum
 Wood

Model Number: _____



Mark all that apply

| | | Yes | No |
|-----------------------|---|--------------------------|--------------------------|
| Steps/Rungs: | Loose, Cracked Bent or Missing | <input type="checkbox"/> | <input type="checkbox"/> |
| Rails: | Cracked, Bent, Split or Frayed | <input type="checkbox"/> | <input type="checkbox"/> |
| Labels: | Missing or Not Readable | <input type="checkbox"/> | <input type="checkbox"/> |
| Hardware: | Missing, Loose or Broken | <input type="checkbox"/> | <input type="checkbox"/> |
| Fasteners: | Rust, Corrosion, Loose or Missing | <input type="checkbox"/> | <input type="checkbox"/> |
| Top: | Cracked, Loose, or Missing | <input type="checkbox"/> | <input type="checkbox"/> |
| Spreader: | Loose, Bent or Broken | <input type="checkbox"/> | <input type="checkbox"/> |
| Outriggers: | Missing, Rust, Corrosion or Loose for scaffolding | <input type="checkbox"/> | <input type="checkbox"/> |
| General: | Rust, Corrosion or Loose | <input type="checkbox"/> | <input type="checkbox"/> |
| Hinges: | Loose, Bent or Missing | <input type="checkbox"/> | <input type="checkbox"/> |
| Locks: | Loose, Bent, Broken or Missing | <input type="checkbox"/> | <input type="checkbox"/> |
| Bracing | | | |
| Front,Rear: | Loose, Bent, Broken or Missing | <input type="checkbox"/> | <input type="checkbox"/> |
| Rivets: | Rust, Corrosion, Loose, Missing | <input type="checkbox"/> | <input type="checkbox"/> |
| Shoes: | Worn, Broken or Missing | <input type="checkbox"/> | <input type="checkbox"/> |
| Platform: | Loose, Bent, Broken or Missing | <input type="checkbox"/> | <input type="checkbox"/> |
| Rail Shield: | Missing or Loose | <input type="checkbox"/> | <input type="checkbox"/> |
| Shoulder Bolt: | Rust, Corrosion or Loose | <input type="checkbox"/> | <input type="checkbox"/> |
| Casters: | Rust, Corrosion or Loose for scaffolding | <input type="checkbox"/> | <input type="checkbox"/> |

- Actions:**
 Ladder tagged as damaged & removed from use
 Ladder is in good condition