



BOISE STATE UNIVERSITY
ENVIRONMENTAL HEALTH, SAFETY
AND SUSTAINABILITY

STANDARD OPERATING PROCEDURE

PORTABLE LADDERS

College/Dept: Boise State University

Division: FO&M

Revision: 1.0

Approval

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Overview

This SOP is written for the safe use and operation of portable ladders. The recommendations set forth in this document are to be followed while using this piece of equipment on the Boise State University campus.

Potential Hazards

- Chemical
 Thermal
 Hydraulic
 Electrical
 Slip/Trip
 Biological
 Mechanical
 Radiation
 Pneumatic
 Fire
 Fall
 Other

Hazard Specifics: Falls from portable ladders are one of the leading causes of workplace fatalities and injury. Plan to address and communicate possible hazards to all crew members prior to the operation of portable ladders. Such hazards include but are not limited to overhead electrical lines, loose materials on roof edge, poorly maintained ladders and uneven ground.

Engineering Controls (EC)

- Guarding
 Shielding/Barriers
 Local Exhaust or Paint booth
 Lockout
 Other

EC Specifics: Depending on the conditions, it may be necessary to install a cleat (diagram on pg.4) behind the feet of a ladder or fix the top of the ladder to a stationary object to ensure the safe operation of a portable ladder.

Personal Protective Equipment (PPE)

- Safety glasses
 Safety goggles
 Face shield & safety glasses
 Face shield & safety goggles
 Lab coat
 Apron
 Tyvek suit
 Tyvek sleeves
 Gloves
 Leg coverings
 Hard hat
 Hearing protection
 Respirator
 Shoes
 Fall protection
 Other

PPE Description: No specific P.P.E. is required for the safe operation of ladders, however it is recommended that footwear be in good shape and have adequate traction. Inadequate foot wear may lead to slipping and/or foot pain and fatigue.

PORTABLE LADDERS

Emergency Response Equipment & Supplies

- | | | | |
|--|--|---|---|
| <input type="checkbox"/> Eyewash | <input type="checkbox"/> Fire extinguisher | <input checked="" type="checkbox"/> First aid kit | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Safety shower | <input type="checkbox"/> Fire blanket | <input type="checkbox"/> Spill kit | <input type="checkbox"/> Emergency gas shutoffs |

Description: A first aid kit should be accessible from the work area.

Additional Safety Information

Only use a ladder for its designed purpose, this includes not exceeding the operational load limit. The table below summarizes the five ladder rating categories. When considering the ladder load – include the materials and tools being used for the task. It is recommended that the ladder chosen should be able to sustain 3 times its intended load.

Type	Duty Rating	Use	Load
IAA*	Special Duty	Rugged	375 lbs.
IA	Extra Duty	Industrial	300 lbs.
I	Heavy Duty	Industrial	250 lbs.
II	Medium Duty	Commercial	225 lbs.
III	Light Duty	Household	200 lbs.

! Placing any material beneath the feet of a ladder for any reason is dangerous and must be avoided. !

Steps

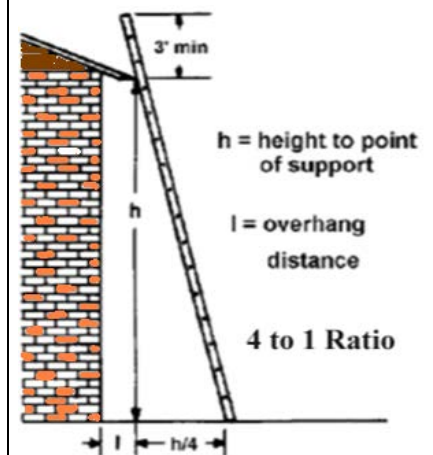
1. Survey the work area

- a) Sources of unexpected knock-over should be considered (i.e. wind, vehicles, doorways, electrical lines, etc.) and should be addressed using signage or barriers when necessary.
- b) **High activity areas (avoid placing a ladder in high activity areas when possible):** When available a spotter can be stationed at the bottom of the ladder to ensure the ladder is not disturbed. Securing or tying off the ladder top to a fixed object is recommended when working in high activity areas.

2. Ladder selection and inspection

- a) Insure the ladder chosen will provide sufficient height to complete the task.
- b) If a ladder must be used in the proximity of electrical elements a wood or fiberglass ladder must be used.
- c) Inspect the ladder prior to every use for any damage; see “Ladder Inspection Checklist”. If any damage is observed during inspection the ladder must be taken immediately from service and clearly marked **“DO NOT USE”**.
- d) Select a ladder with the proper duty rating by considering the user, tools, and materials. Refer to “Additional Safety Info.” section for standard ladder duty ratings and instructions.

Step 3 - Ladder Placement



3. Ladder Placement

All Portable Ladders

- a) Firm footing – “heel test” if you can stomp your heel more than an inch into the ground it is too soft for ladder use.
- b) Level footing – without level footing any ladder will become dangerous and unstable. This factor is amplified by height.
 - o level the ground by soil removal
 - o move the ladder
 - o use a ladder with an adjustable base (diagram on pg. 4)
- c) Spreader bars need to be fully horizontal and locked (see last diagram on pg. 4)

Extension and Straight Ladders

- d) The feet should be placed one quarter length of the ladder length from the wall or ladder support (ladder is 75° from ground level). See diagram in right column.

4. Ladder Operation

- a) It is a requirement that personnel read and follow all labels/markings on the ladder.
- b) Set the ladder at the proper angle. (see diagram and step three)
- c) The user must maintain 3 points of contact with the ladder at all times. This means that the hands must be empty and free to grasp the ladder during movement. Use a tool belt or hand line to transport tools or materials.
- d) Always face the ladder and keep shoulders between the ladder rails. Avoid overreaching.
- e) When using a straight or extension ladder the ladder must extend three feet above the point of support.
- f) Allow sufficient room to step off the ladder safely. Keep the area near the bottom of the ladder free from equipment, materials, and tools.
- g) Approved ladder accessories (ladder levelers, jacks or hooks) can only be used for their designed purpose.
- h) A folding ladder cannot be used in a partially closed position.
- i) Do not use the top step/rung of a ladder unless it is specifically designed for that purpose.
- j) If a ladder is used on an unstable or sloping surface it must be secured to prevent shifting during use.
- k) All ladders must be free of persons and equipment before being moved or relocated.
- l) Ensure all locks on an extension ladder are fully engaged during use.
- m) Do not exceed the maximum load rating of a ladder.
- n) Do not place any material beneath the feet of a ladder.
- o) Maintain a minimum of 10 ft. clearance from energized lines at all times; even when using wood or fiberglass ladders.
- p) Do not leave placed ladders unattended.

5. Further Guidance on Portable Ladders

- Training requirements: 29 CFR 1926.1060(b)
- [OSHA Fact Sheet](#)
- OSHA construction eTool for portable ladders

LADDER INSPECTION CHECKLIST

ALL WARNING AND DANGER LABELS LEGIBLE AND INTACT

Portable Ladders

- Loose steps or rungs
- Loose rivets, screws, bolts or other metal parts
- Cracked, split, bent or broken upright braces, steps or rungs
- Slivers on uprights, rungs or steps
- Damaged or worn nonslip bases
- Rusted or corroded spots
- Debris on rungs

Stepladders and Trestle Ladders

- Wobbly
- Loose or bent hinge spreaders
- Broken stops on hinge spreaders
- Broken, bent or loose steps
- Loose hinges
- Damage to paint shelf

Extension Ladders

- Loose, broken or missing extension locks
- Defective locks that do not seat properly when the ladder is extended
- Deterioration of rope

Proper cleat placement



Lock Spreader