

INTRODUCTION

Using ladders presents inherent risk. Proper training on the use of ladders and inspection and maintenance reduce the risk.

The Occupational Safety & Health Administration (OSHA) requires employee training for activities using ladders. OSHA and American National Standards Institute (ANSI) standards cover the design, use, care and maintenance of all ladders.

FOLDOUT (STEP) LADDERS



- Do not use the top or top step of a stepladder as a step.
- Do not use the cross bracing on the rear section of the ladder unless the ladder is specifically designed with steps on both sections.
- Metal spreader or locking devices must be provided on stepladders to hold the front and back section in an open position when the ladders are being used. Ensure that the spreaders are in good condition and securely connected.
- Don't climb a closed step ladder. The feet are not designed for this and there is a good likelihood that the ladder will slip out from under you.

EXTENSION LADDERS



- Ensure that the base of the ladder is firmly & evenly-positioned on a non-slippery, level surface.
- Ensure that the bottom ladder side rails are equipped with nonslip feet. Be aware that nonslip feet are not intended as a substitute for care in safely placing, lashing, or holding a ladder that is being used upon oily, metal, concrete, or slippery surfaces.
- Ensure that both upper side rails are firmly & evenly supported. Support area should be at least 12-inches wide on both sides of the ladder.
- If the ladder is being used to access a roof or platform, ensure that the ladder extends a minimum distance of 3-feet above the surface being accessed.

MULTI-POSITION LADDERS



- Explicitly follow the manufacturer's instructions.
- Never use a multi-position ladder unless you have been trained on how to properly use it. Since the operating mechanisms of multi-position ladders differ, ensure you have been trained on the specific ladder you will be using.
- Ensure that all locking mechanisms are engaged prior to using the ladder. Typically, there will be an audible click and a visual indication that each section is properly locked.

FIXED LADDERS



- A cage is required for fixed ladders that are greater than 20-feet in length.
- Newly-installed fixed ladders that are 24-feet in length or more must be equipped with a ladder safety device. Existing ladders must be retrofit with a ladder safety device by the end of 2036.
- Rungs shall be at least 16-inches wide, ¾-inch minimum diameter, 12-inches maximum between rungs with even spacing and with at least 7-inches clearance behind the ladder.

STEP STOOLS



- Step stools are commonly used in offices, libraries and laboratories to access shelves, tops of animal cages etc.
- Consider using a small step ladder as shown on the left rather than a step stool as shown below.
- The small step ladder provides better stability and the hand hold helps users maintain their balance which minimizes the potential for falls.

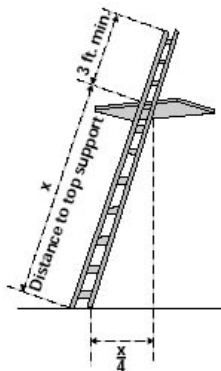


CHOOSE THE CORRECT LADDER



- Only use ladders made of non-conductive material (fiberglass) if there is any potential for contact with electricity.
- Ensure the ladder is tall enough for the job.
- Working from a properly constructed scaffold or a lift is generally safer than working from a ladder. Consider using a scaffold or lift whenever possible.
- Note that specialized training is required for those who build or work from scaffolds, lifts or use fall protection equipment.

PROPER LADDER POSITIONING



- Non self-supporting ladders shall be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder (the distance along the ladder between the foot and the top support). For example, the base of a 20-foot ladder leaning against a wall should be 5-feet back from the wall.
- A good rule of thumb is that if standing at the base of the ladder with your arms extended straight forward, the palms should fall on the rung directly in front of you.
- Note in the diagram that the ladder properly extends 3-feet above the platform being accessed.

INSPECTION/MAINTENANCE

- Inspect ladders prior to each use.
- Keep ladders clean.
- Only use ladders that have an ANSI A14 label. This label indicates that the ladder meets ANSI/OSHA design criteria.
- Do not use a ladder that exhibits structural defects including, but not limited to, broken or missing rungs, cleats or steps, broken or split rails, corroded components or other faulty or defective components.

- Ladders that fail inspection must be immediately tagged “Dangerous, Do Not Use”.

LOADING



- Always look for the loading label on the side of the ladder. Do not use a ladder that is missing this label.
- The label indicates the maximum load that the ladder may carry. The load includes the user and any materials & equipment.

SAFE CLIMBING PROCEDURES

- Do not use ladders that are wet or have oils, grease, wet paint or other slipping hazards.
- Never position a ladder in front of a doorway opening towards the ladder.
- Always remain centered on the ladder. Do not reach to the sides. Your belt buckle should never extend beyond either side rail.
- Always face the ladder.
- Always move one step at a time and grip the ladder with at least one hand at all times.
- Do not carry objects or loads that could cause loss of balance and falling.

FOR ADDITIONAL INFORMATION

- Penn Environmental Health & Radiation Safety www.ehrs.upenn.edu
- Penn Ladder Safety Program http://www.ehrs.upenn.edu/media_files/docs/pdf/laddersafetyprogram4-17rev1.pdf
- OSHA General Industry Standard for Ladders - 29 CFR 1910.21 [Subpart D, Walking-Working Surfaces](#)
- OSHA Construction Standard for Ladders. [1926.1053](#)