LADDER SAFETY REQUIREMENTS

Did you know this is Ladder Safety Month? The improper use of ladders is a major contributor to workplace accidents – and not just on construction sites. Even the utility ladders that are often found in offices play a role in easily preventable accidents. The American Ladder Safety Institute offers ladder training, and you can even take a test at their website: https://www.laddersafetytraining.org/

A ladder is a device used to provide a means of going from one elevation to another. Ladders can be either fixed or portable. A fixed ladder is a ladder permanently attached to a structure, building, or equipment. Portable ladders can be moved from one task to another.

The primary hazard when using a ladder is falling, which can be caused by incorrect placement or improper use of the ladder. In addition, a poorly designed or maintained ladder may collapse under the load placed upon it and cause the worker to fall.
Ladder Safety Requirements
Risk Management

**Portable Ladders**

A portable ladder should be designed with the proper strength to support a worker, as well as his tools and materials. Portable ladders are classified as follows:

- **Type I Industrial.** Heavy-duty ladder with a load capacity not more than 250 lb (113.4 kg).
- **Type 1A Industrial.** Heavy-duty with a load capacity of not more than 300 lb (136.1 kg).
- **Type 1AA Industrial.** Extra heavy-duty with a load capacity of not more than 375 lb (170.1 kg).
- **Type II Commercial.** Medium-duty ladder that is suitable for painting and similar tasks, with a load capacity not more than 225 lb (102.1 kg).
- **Type III Household.** Light-duty ladder with a load capacity of 200 lb (90.7 kg).

Portable ladders can be constructed of wood, steel, reinforced plastic, aluminum, or glass fiber. Portable ladders can be stepladders, single ladders, or extension ladders.

A step ladder is a self-supporting ladder and should only be used as such. Before it is used, the step ladder should be fully open, spreaders locked, and all feet on a firm level support surface. The rear rail bracing on step ladders are designed for improving stability and not for climbing, although some ladders are designed with steps on both front and rear sections. The top step should never be used as a platform to stand on.

**The Occupational Safety and Health Administration (OSHA) requirements for portable ladders include:**

- Stepladders longer than 20 ft (6.1 m) should not be used.
- Stepladders should be equipped with a metal spreader or locking device of sufficient size and strength to securely hold the front and back sections in the open position.
- Single ladders longer than 30 ft (9.1 m) should not be used.
- Extension ladders longer than 60 ft (18.3 m) should not be used.
- Ladders should be maintained in good condition at all times, and serviced and cleaned on a regular basis.
- Ladders should be inspected frequently by a competent person and those that have defects should be removed from service for repair, and tagged or marked as “Dangerous, Do Not Use.”
- Portable metal or conductive ladders should not be used for electrical work or where they may contact electrical conductors.
- Portable ladders in use should be tied, blocked, or otherwise secured to prevent their being displaced.
- Employers should instruct workers to recognize and avoid unsafe conditions, and to provide prompt medical attention in case of serious injury.
Fixed Ladders
A fixed ladder is a ladder permanently attached to a structure, building, or equipment. Fixed ladders, with a length of more than 20 ft (6.1 m) to a maximum unbroken length of 30 ft (9.1), should be equipped with cages or other safety devices.

A “cage” is a guard that is fastened to the side rails of a fixed ladder, or to the structure, to encircle the climbing space of the ladder and which is intended for the safety of the person climbing the ladder. Cages should extend a minimum of 42 in (106.7 cm) above the top of a landing, unless other acceptable protection is provided. Cages should extend down the ladder to a point not less than 7 ft (2.1 m) nor more than 8 ft (2.4 m) above the base of the ladder.

Another feature of fixed ladders is a landing platform, which is intended to provide a means of interrupting a free fall and serve as a resting place during long climbs. When fixed ladders with cages are used to climb higher than 20 ft (6.1 m), except on chimneys, landing platforms should be provided for each 30 ft (9.1 m) of height or fraction thereof. Where a cage, well, or ladder safety device is not provided, landing platforms should be provided for each 20 ft (6.1 m) of height or fraction thereof.

A ladder safety device is any device, other than a cage or well, designed to eliminate or reduce the possibility of accidental falls; it may incorporate such features as life belts, friction brakes, and sliding attachments. Ladder safety devices may be used on tower, water tank, and chimney ladders over 20 ft (6.1 m) in unbroken length, in lieu of cage protection. A landing platform is not required in these applications.

The preferred pitch of fixed ladders should be in the range of 75 to 90 degrees with the horizontal. Fixed ladders should be considered substandard if they are installed within the pitch range of 60 to 75 degrees with the horizontal. Substandard fixed ladders are permitted only where it is found necessary to meet conditions of installation. This substandard pitch range should be considered as a critical range to be avoided, if possible. Additionally, ladders having a pitch in excess of 90 degrees with the horizontal are prohibited. As with all ladders, fixed ladders should be inspected regularly.

General Guidelines
Before any ladder is used, proper safety training should be provided for the workers that will be using the equipment, and documentation of such training should be maintained. A ladder should only be used for the purpose for which it was designed. Only one person at any one time should be on a ladder, unless it is designed to accommodate more than one person. Self-supporting portable ladders should be capable of supporting at least four times the maximum intended load, with the exception of extra heavy-duty Type 1 metal or plastic ladders, which should sustain at least 3.3 times the maximum load.
Ladders should not be placed in passageways, doorways, driveways, or any other location where they can be disturbed. When workers are climbing or descending a ladder, they should face the ladder and have one hand on the ladder at all times. Portable ladder side rails should extend at least 3 ft (0.9 m) above the top of a landing for proper mounting and dismounting. Materials or equipment should not be carried on a ladder; instead a hand line should be used for this purpose. The ladder should not be extended, moved, or shifted while someone is on it. Additionally, ladders should only be used by authorized persons. A worker of one contractor should not be allowed to use the ladders of another contractor without written authorization.

Non-self-supporting ladders should be erected at an angle of approximately 75 degrees with the horizontal and be placed on firm, dry ground. The distance from the wall to the foot of the ladder should be about 1/4 the ladder’s total length [e.g., a 10-ft (3.05-m) ladder should be placed so that the foot of the ladder is about 2.5 ft (0.76 m) away from the object against which the top is leaning].