Safe Ladder Use



WHAT'S AT STAKE?

Even the thought of climbing a ladder can be scary for some people. The potential for falls and serious injury is enough for many homeowners to leave the gutter cleaning and holiday decorating to the pros. But if you're a do-it-yourselfer, or you have to reach a high cabinet or replace a bulb in a ceiling fixture, you're probably going to use a ladder.

A ladder might be a common tool, but just like any other piece of equipment, it needs to be used correctly to be safe—something that happens far less than it should.

The misuse of ladders and related incidents are a common problem. Ladder safety begins by delivering appropriate training and respect for safe ladder use at work and at home.

WHAT'S THE DANGER?

Not long ago, a cable installer in Texas was climbing a ladder to work on some overhead lines. To waterproof the cable splices, he and his colleague used a silicone-based product, which left residue on the gloves, and the ladder rungs. As the worker descended the ladder, he slipped on the slick rungs and fell more than 13 feet, hitting the concrete below headfirst – a fatal injury.

Ladders are one of the leading sources of workplace injury. The Centers for Disease Control (CDC) report **eight-in-10 construction injuries** treated in emergency rooms nationwide involve ladders. Most ladder injuries are the result of falls. Either a worker loses balance and falls off a ladder, or it's unstable and tips over with a worker on it. Another big injury risk is electrocution when working near power lines. Your employees are at risk of ladder injuries each time they set foot on one. But most of those injuries are preventable, just by following some **do's** and **don'ts**.

Falls are the third leading cause of unintentional injury-related deaths and the top cause of nonfatal injuries, according to Injury Facts. In 2017, 36,338 people died from falls at home or at work.

LADDER RISK/HARMS

6 Important Points

1. Despite some of the safety rules being very simple—or maybe because of their simplicity—they get ignored. When a piece of equipment is very familiar and used every day, it's easy to become complacent and misuse it. Every year, many experienced workers fall off ladders seriously injuring themselves or dying because they've become so comfortable with working at heights that they've forgotten how dangerous it is. Frequent reminder training for ladder safety is an effective way to curb the effects of complacency as is building strong ladder safety habits that can compensate for moments when complacency strikes.
2. The portability of ladders can give you a leg up just about anywhere, so ladder safety habits need to be carried everywhere too. Ladders are one of those pieces of equipment that are used at work and at home. Even though the same rules and risks apply both on and off the job, it can be easy to forego or forget workplace procedures when nobody is watching or the perception of risk changes in a more comfortable home environment.
3. The more frequently someone uses ladders at work, the more comfortable they'll be at home. This makes it especially important to instill strong safety habits and help people understand the temptation they'll face to take shortcuts, change their behavior or relax their attention to safety without the company culture and supervision that makes them think twice.
4. When using ladders at home, people are more likely to find reckless workarounds to work-impeding problems. If a ladder is too short, prop it up on something. No PPE handy? Use a hand to shield your eyes. These kinds of solutions would make a safety manager shudder and get employees into trouble, but at home there is only the person's knowledge, judgment, habits and internal culture of safety to guide them.
5. Employees who don't use ladders at work may have never been trained or given even a basic understanding of ladder use. So consider providing your entire staff with some level of ladder knowledge regardless of whether it is a requirement of the job. If they fall from a ladder at home, it may not be your responsibility, but it can lead to a lost-time injury that will affect your company negatively in many ways.
6. Additionally, whether you're talking ladder safety, PPE or DIY projects around the home, all types of workers would benefit from having a good understanding about how human factors like rushing, frustration, fatigue and complacency can lead them to make mistakes or not follow sound safety practices at home that could lead to serious, unexpected outcomes—and therefore how important it is to understand and follow rules even when nobody is watching.

POTENTIAL HARMFUL LADDER USE

Injuries and even death may ensue in failing to adhere to the following:

- Avoid using the ladder if you feel dizzy or tired or are impaired.
- If using a ladder outside, do not use in windy or inclement weather.
- Make certain the ladder is free of grease, oil, mud and other sticky or slippery materials.
- Wear slip-resistant shoes with clean soles for maximum traction.
- Face the ladder and always grip the rungs, not the side rails.
- Always keep three points of contact with the ladder: Two hands and one foot or two feet and one hand.

- Extension ladders should extend 3 feet above the roof or platform you're trying to reach.
- Do not stand higher than the step indicated on the label marking the highest standing level.
- Don't lean or overreach; reposition the ladder instead.
- Do not move the ladder while in use.
- Take your time when climbing down so you don't skip any steps.
- Don't climb while carrying tools; use a tool belt.
- Never have someone climb up to bring you something; only one person should be on a ladder at a time.

HOW TO PROTECT YOURSELF

ALL ABOUT EMPLOYEES

Employees Need to Do This

The first step toward ladder safety is choosing the right ladder for the job. And, the right ladder isn't just the first one available or easiest one to carry.

If power lines are nearby, trade the aluminum ladder for a **non-conductive** one with wooden or fiberglass sides. Should an aluminum ladder come in contact with live power lines it immediately energizes. Workers are at risk of electrocution.

Ladder Safety Tips

- Inspecting the ladder for damage before use. Look for corrosion, cracks, splits, and bent edges.
- Removing damaged ladders from service and tagging them as damaged.
- Extending the ladder three feet above the landing—the **three-foot rule).**
- Moving the base out at least one foot for every four feet of ladder height—**The 4-to-1 ladder safety rule.**
- **Securing the ladder** in accordance with Cal/OSHA regulations.
- Always maintaining three points of contact when climbing.
- Making sure all locks on extension ladders are engaged to prevent a sudden retraction.
- When moving a ladder, retracting it all the way and when possible having two people move it.
- In order to maintain three points of contact on a ladder, never carry anything while climbing. Workers are encouraged to use a tool belt for small tools and a rope system for larger tools and other materials.

Start with a Firm Foundation

No matter what kind of ladder you're using, place the base on a firm, solid surface and avoid slippery, wet or soft surfaces.

- Never lean a straight or extension ladder against a window pane or other unstable surface; use a stabilizer and ladder leveler as needed.
- A straight or extension ladder should be placed 1 foot away from the surface it's resting on for every 4 feet of the ladder's working length, the distance along the side rail from the ground to the top support point.
- Securely fasten straight or extension ladders to an upper support.

- Make sure stepladders are open completely before climbing.
- Block or guard doorways near any type of ladder so no one can open it and knock you off.
- Make certain the area is free of clutter both at the base and top of the ladder.

Fall protection and other OSHA considerations

OSHA does not require fall protection when using portable ladders, but the agency addresses fall protection when using ladders in several Letters of Interpretation (LOI). As stated in a January 13, 2000, LOI, if the user is at risk of falling from a portable ladder, then OSHA encourages employers to provide additional fall protection. There are a number of factors to consider in these situations, including:

- The height of the ladder
- The type of work being performed
- Conditions of the work environment
- The limitations of the fall arrest system used

Employees should be properly trained to use a ladder as a means of fall prevention.

In terms of storage, OSHA recommends that ladders be secured in passageways, doorways, driveways and other areas where they can avoid be accidentally displaced by workplace activities or traffic.

For inspection and repair, OSHA requires portable ladders to be inspected, though exact intervals are not given. Certainly, if there is an incident, the ladder should be inspected before reuse. Take damaged ladders out of service for repair or destruction, and tag or mark them as “dangerous, do not use” or incorporate similar wording. Repairs can be done by either an employer’s designated personnel or the manufacturer.

Ladder safety tips

- Read and follow all labels/markings on the ladder.
- Avoid electrical hazards. Look for overhead power lines before handling a ladder. Avoid using a metal ladder near power lines or exposed energized electrical equipment.
- Always inspect the ladder prior to using it. If the ladder is damaged, remove it from service and tag it until repaired or discarded.
- Always maintain a three-point (two hands and a foot, or two feet and a hand) contact on the ladder when climbing. Keep your body near the middle of the step, and always face the ladder while climbing.
- Only use ladders and appropriate accessories (ladder levelers, jacks or hooks) for their designed purposes.
- Ladders must be free of any slippery material on the rungs, steps, or feet.
- Do not use a self-supporting ladder (e.g., step ladder) as a single ladder or in a partially closed position.
- Do not use the top step/rung of a ladder as a step/rung unless it was designed for that purpose.
- Use a ladder only on a stable and level surface, unless it has been secured (top or bottom) to prevent displacement.
- Do not place a ladder on boxes, barrels, or other unstable bases to obtain

additional height.
- Do not move or shift a ladder while a person or equipment is on the ladder.
- An extension or straight ladder used to access an elevated surface must extend at least three feet above the point of support. Do not stand on the three top rungs of a straight, single, or extension ladder.
- The proper angle for setting up a ladder is to place its base a quarter of the working length of the ladder from the wall or other vertical surface.
- A ladder placed in any location where it can be displaced by other work activities must be secured to prevent displacement, or erect a barricade to keep traffic away from the ladder.
- Be sure that all locks on an extension ladder are properly engaged.
- Do not exceed the maximum load rating of a ladder. Be aware of the ladder’s load rating and of the weight it is supporting, including the weight of any tools or equipment.
- Only use ladders for their designed purpose.
- Make sure you’re using the right type of ladder for the job.
- Rethink your plans if you’re dizzy or fatigued.
- Make sure that your shoes are clean of any substances which could cause you to slip.
- Protect your ladder at the base to prevent people or objects bumping into it.
- Do not carry objects that could cause loss of balance.

FINAL WORD

Ladders are used at home and the workplace. People who use them at home often do not use ladders in the workplace; rules at home are often more relaxed than in the workplace. Using a ladder unproperly causes many accidents resulting in injuries and even death.