

## Ladder Safety

According to the Bureau of Labor Statistics, more than 164,000 emergency room visits, and 300 deaths are caused by falls from ladders per year, most are from less than ten feet. In most cases, ladders are used improperly due to individuals being in a hurry or just not having the right equipment available. In this article we will discuss choosing the right ladder for the job task, best practices when using a ladder, and numbers to remember to keep you safe on ladders.

### Types of Ladders

The first thing to consider when performing a task that requires a ladder is which one to use. There are different types and not all can be used for any task. We will explain the ones you will see more commonly.



You will find step ladders readily available in your offices. Their use is mostly for grabbing items off shelving that you cannot reach while standing on the floor. These are the preferred equipment as opposed to a rolling desk chair, desk, or co-worker's shoulders. Be careful though, if you still must reach to grab an item while standing on a step ladder, you might want to grab an A-frame ladder instead.

A-frame ladders are used mostly to fix, place, or grab items that are much higher and closer to the ceiling. Changing out light bulbs, replacing ceiling tiles, hanging decorations, and replacing batteries in smoke detectors are the most common reasons to use these ladders. Avoid the top step of these ladders because the ladder could tip over and cause you to fall. If you need to go higher or just need an area to stand on to finish your job task, consider using a platform ladder. Also, A-frames should not be tilted against walls and climbed upon or used to get on top of other areas, for example, roofs or mezzanines.



Platform ladders are similar to A-frame ladders and come in varying lengths. Platform ladders provide a flat area at the top for more stability so the user can move around to complete a task. You still want to avoid reaching with this type of ladder as they, and A-frames, can tip over if you reach too far. Like the A-frame, this ladder should not be used to get on top of other areas like roofs or mezzanines. That job is for extension ladders.

Extension ladders are used mostly to gain access to the top of a mezzanine or roof. They can also be used to fix or clean windows that are higher than an A-frame or platform ladder can reach. Be aware though, extension ladders become very shaky when stretched to their limits. If this occurs, you should consider using a scissor lift or man lift, though we will not be discussing this type of equipment in this article. There are some precautions with extension ladders that need to be followed. First, if you are getting onto a roof, the extension ladder must extend three feet beyond the roof line. Additionally, you should always have someone holding the ladder at the ground level to prevent the ladder from sliding or shifting.



### **Best Practices**

Ladders present a fall risk that could result in serious bodily injury. For this reason, you want to make sure to follow some easy to remember best practices.

- Inspect the ladder prior to each use – Tools and equipment that are used often by many people tend to deteriorate quickly. Therefore, we want to inspect all components of the ladder to ensure it is in the same condition as it was originally designed. The ladder should have all footings and rungs/steps in place with no screws, carabiners, nails, bailing wire, or duct tape holding things together. For A-frames and platform ladders, the spreaders (folding arms in the middle of the ladder) should lock into place when the ladder is fully open. For extension ladders, the rung locks should function properly and keep the ladder from gliding down. If anything is wrong with the ladder or you do not feel safe using it, set it aside and place a sign on it to inform others that the ladder is not safe for use. Additionally, a thorough inspection of all ladders should occur annually, especially for those that are seldomly used.
- Numbers – There are important numbers to remember when using ladders as well.
  - One – As a best practice, it is recommended that one person be assigned to hold the base of the ladder while an employee is on it. This will help reduce the likelihood of a slip or a slide that could cause the employee to fall from the ladder.
  - Three – You must maintain three points of contact when climbing or working from a ladder. This should be done with both feet and one hand. If you were to move one leg off of the ladder, you then shift your center of balance away from the middle of the rails. If the load you have to carry causes you to exceed the weight rating, use a pull line or pulley system to lift the load to you.
  - Three feet – This was mentioned above but bears repeating because it is such a common mistake. When using an extension ladder to get on top of something (mainly a roof), the top of the ladder must extend beyond the roof by at least three feet.
  - Four to one (4:1) – This ratio should be used to determine how far out the base of an extension ladder needs to be from the wall. For every four feet of wall height, the ladder should come out one foot from the wall. For example, if we are setting up a ladder for a twelve-foot-high wall, we must place the base of the ladder three feet from the wall.

- Know the ladder ratings – Each ladder has a weight rating, and it is imperative that amount is not exceeded. When climbing a ladder, you should also consider the weight of the tools and materials that are being carried and used.
- Use a non-conductive ladder made of wood or fiberglass around electricity – Aluminum and similar material type ladders should never be used around electrical equipment. If such a ladder were to contact an electrical current, the current would run through the ladder and electrocute the person on the ladder and anyone else touching it.
- Secure the ladder after use – After you have completed your task and need to put the ladder away, it is best to secure the ladder either horizontally with hooks or vertically with chains or rope. This will reduce the likelihood of inadvertent contact injuries from falling ladders. This is a common observation in shops and mechanical rooms.

Ladders are an essential piece of equipment for our maintenance crews and electricians. That is why it is important to train your staff on the safe uses of ladders. The wrong equipment or lack of knowledge could lead to a serious injury. The Loss Control staff would gladly visit your organization to advise on these best practices.