

# LADDERS

## Are the appropriate types of ladders being used?

The unsafe use of ladders can result in the cause of many serious injuries. This equipment is used on a daily basis by churches for numerous tasks including; painting, changing light bulbs, cleaning of gutters, window washing, hanging holiday decorations and performing maintenance/repair that require climbing onto the roof. The first step in working with ladders, is selecting the correct type of ladder to safely perform the job task at hand.

### Hazard Example(s):

- A volunteer was on a ladder at the church trimming the top of a tree. The ladder slipped out from underneath him. He was able to grab a branch and hung on as long as he could, and then fell 15 feet to the ground. The total cost incurred by this claim was approximately \$90,000.
- A volunteer was painting a ceiling using a two foot step stool. He had the paint bucket in one hand and the brush in the other. While reaching toward the ceiling, he lost his balance and fell. Injuries occurred to his hand, back and head. The total cost incurred was \$415,000.
- A member of the church, who was playing a part in a holiday play, fell off a scaffold that was built by other volunteers for the play. When the victim fell, he landed on both feet, shattering his right heel and also causing damage to his tibia and fibula, which required surgery and physical therapy. He also suffered from a compressed disc in his lower back. There was no railing on the scaffold, but church leaders felt it was sturdy enough and did not need a railing. The night of the show, there was a three-foot gap between the stage and wall, which likely caused the fall. The total cost incurred by this claim was \$978,000.

### Recommendation(s):

The following guidelines should be incorporated for use with ladders:

There are different types of ladders used:

- Stepladders - A self-supporting portable ladder, non-adjustable in length, having flat steps and hinged back. Stepladders should be used for work at low and medium heights
- Straight (single) ladders - A non self-supporting portable ladder, non adjustable in length, consisting of one section.
- Extension ladders - A non self-supporting portable ladder adjustable in length. Always select a ladder that is longer than what you need to reach. Extension ladders should be used for climbing to higher elevations such as windows, gutters, and roofs.

Ladders are made of aluminum, fiberglass and wood. The following guidelines should be applied:

- Aluminum ladders should not be used around electrical sources, as aluminum ladders conduct electricity.
- Wood ladders are a non-conductor of electricity when dry. Wood ladders age very quickly, as they are more susceptible to drying and splitting with age. Wood ladders need some type of protective, clear finish to preserve and extend the useful life of the wood.
- Fiberglass ladders do not conduct electricity when dry. Generally, glass ladders do not require a protective finish to preserve them. The worst that normally occurs with age is a slow fading of color and ultra-violet erosion of the surface.

Ladders have ratings associated with them based on weight and use.

- If the rating label is not found on the ladder, the ladder should be replaced.
- Type III ladders should not be used and should be replaced with a Type II or higher rated ladder.

The chart below lists these ratings:

<u>Type</u>	<u>Weight Rating</u>	<u>Duty Rating</u>
Type IAA	375 lbs	Super Heavy Duty
Type IA	300 lbs	Extra Heavy Duty
Type I	250 lbs	Heavy Duty Industrial
Type II	225 lbs	Medium Duty Commercial
Type III	200 lbs	Light Duty Household

**Tasks:**

1. Ladder selection - Evaluate all job tasks that require the use of ladders to determine if the correct types of ladders are currently being used to perform these tasks safely.
2. Ladder replacement - Replace any type III ladders that are being used with a type II or higher rated ladder.

## Are employees and/or volunteers trained on how to use ladders safely?

A church can provide their employees/and or volunteers with the safest ladders on the market, however accidents will still occur if they are not trained on how to properly use them. Employees should be trained how properly operate any ladder as well as how to recognize hazards related to ladders.

### **Recommendation(s):**

Employees should be trained on the following:

- Ladders should only be used for their designed purpose
- Do not load ladders beyond their maximum intended load-carrying capacities. Be aware of the ladder's load rating and of the weight it is supporting, including the weight of any tools or equipment.
- Ladders should only be placed on a firm and level surfaces, never place on boxes, barrels, or other unstable bases to obtain extra height.
- Ladders must be provided with safety feet that are adapted to the type of surface that the ladder is to be used.
- Ladders should be secured when placed in areas such as passageways, doorways, driveways or where they can be displaced by workplace activities.
- Avoid electrical hazards! - Look for overhead power lines before handling a ladder. Never use a metal ladder around power lines or electrical equipment.
- Always inspect the ladder prior to using it. If the ladder is damaged, it must be removed from service and tagged until repaired or discarded.
- Do not move, shift or extend ladders while in use.
- Always face the ladder when moving up or down the ladder. Use at least one hand to grasp the ladder when climbing. The "Three Point Rule" should be followed when ascending and descending a ladder. Keep at least three of your hands and feet in contact with the ladder at all times.
- Do not carry objects or loads that could cause loss of balance and falling.
- Employees should understand the nature of fall hazards in work area.
- Proper construction, use, placement and care in handling of all ladders.
- Two people should work together when using a ladder (someone is available to hold the ladder in position).
- Individuals who use the ladders should be physically capable (age, height, weight) to use the ladder safely (those who are too old, too young, or have health or physical concerns should not be permitted to use ladders).
- A 4 to 1 rule should be followed-one rung length out from the wall for every four rungs to where the ladder touches the wall.
- When in use, ladders should extend at least 3 feet above elevated surfaces.
- Individuals should be instructed not to use the top two steps of stepladders as steps.
- After being positioned, all straight and extension ladders should be securely tied off to the building or other fixed object in order to prevent the ladders from slipping or tipping over.
- Ladders should have automatic locking mechanisms (extension and step ladders should be equipped with at least two automatic locks of an approved design).
- Ladders must not be tied or fastened together to create longer sections unless they are specifically designed for such use.

Employees must be retrained as necessary to maintain their understanding and knowledge on the safe use and construction of ladders.

**Tasks:**

1. Ladder training - Train all employees and/or volunteers whose jobs require them to use ladders on the safe use and maintenance of ladders. Conduct this training prior to the beginning of work with ladders and re-train as necessary to maintain understanding and knowledge on the safe use of ladders.

## **Are ladders properly inspected and maintained?**

Over time the condition of ladders will deteriorate and eventually become unsafe for use. Ladders should be inspected for visible defects periodically and after any incident that could affect their safe use.

**Recommendation(s):**

Employees should be trained to inspect ladders for the following:

- Before using any ladder, the ladder should be inspected to look for the following faults:
  - Loose or missing rungs, cleats, or bracing;
  - Loose nails, bolts, or screws;
  - Cracked, broken, split, dented, or badly worn rungs, cleats, or side rails;
  - Wood splinters;
  - Corrosion of metal ladders or metal parts, and
  - Missing or damaged side rails or foot pads.
- Ladders with broken, missing steps, rungs, or cleats, broken side rails, or faulty equipment should be removed from use.
- Ladders should be free from paint, which will have a tendency to hide defects.
- Ladders should be protected from excessive heat and the weather whenever possible, and should be hung on a ladder rack of suitable design, to protect against damage during long periods of inactivity.
- Metal ladders should be legibly marked with signs cautioning against using them around electrical power sources.
- Damaged ladders should be removed from service, but if repairing the ladder is the only option the ladder repairs must restore the ladder to a condition meeting its original design criteria before the ladder is returned to use.

**Tasks:**

1. Ladder inspection - Inspect all ladders prior to beginning to work with them.
2. Ladder inspection training - Train all employees and/or volunteers whose jobs require them to use ladders on how to inspect and maintain any types of ladders used while performing their jobs. Conduct this training prior to the beginning of work with ladders and retrain, as necessary, to maintain understanding and knowledge on inspecting and maintaining ladders.