



# Fatal Facts – Portable Ladder Safety

In April of 2014 a residential construction worker in Hawaii died in a completely avoidable tragedy when he fell off an eight foot (8') ladder. The employee was using the ladder to complete touch-up painting around the exterior of a newly built, single story addition to a pre-existing two-story home. The employee was part of a three man crew and was not in visual contact with the other two workers. Co-workers, investigating an unusual sound, found the man on the concrete foundation at the foot of the ladder. The employee suffered significant head trauma, several broken ribs and a punctured lung; he was pronounced dead at the hospital.

## What Caused the Accident?

Although there were no witnesses root-cause analysis revealed three factors that may have contributed to this worker's death.

- Three point contact not maintained
- Lack of policies and procedures about safe ladder use
- Lack of ladder safety training

## Common Hazards of Ladder Usage

Workers who use ladders risk permanent injury or death from falls and electrocutions. These hazards can be eliminated or substantially reduced by following good safety practices. This fact sheet examines some of the hazards workers may encounter while working on stepladders and extension ladders and explains what employers and workers can do to reduce injuries.

*Some of the most common hazards encountered when using ladders are:*

- **Climbing or Working from a Ladder with Your Hands Full**
- **Reaching or Leaning**
- **Placing the Ladder on Objects to Gain Height**
- **Standing on the Top Rung of a Ladder**
- **Placing Ladders at Wrong Angle**
- **Using a Worn or Damaged Ladder**
- **Throwing/Catching Items from a Ladder**
- **Using Metal Ladders Near Electrical Sources**
- **Exceeding the Weight Limit**
- **Placement on an Uneven or Unstable Surface**

Many of us climb ladder and step stools every day at home without thinking twice about the risk involved. The worker that died in this case had many years of experience working with and on ladders and still lost his life to an avoidable accident. Every time you climb a ladder you risk falling. It is important that you prepare yourself and your employees to prevent, identify, and minimize the hazards associated with portable ladder usage.



This photo may look safe to you. However, the slightest change in conditions could result in this painter losing his balance and falling. Depending on conditions even a fall from minimal heights can be fatal. The worker in our case study fell from somewhere between 1 and 8 feet.

This kind of accident can happen to anyone, regardless of experience, any time safe work practices are not followed.

## How Can You Protect Your Business and Your Employees?

**Plan Ahead** to get the job done safely.

- A competent person must visually inspect all ladders before use for any defects such as: structural damage, split/bent side rails, broken or missing rungs/steps/cleats and missing or damaged safety devices, missing bolts, screws, and loose

components. Where a ladder has these or other defects, it must be immediately marked as defective or tagged with “Do Not Use” or similar language. Other hazards to look for include grease, dirt or other contaminants that could cause slips or falls; and Paint or stickers (except warning or safety labels) that could hide possible defects.

- Allow sufficient room to step off the ladder safely. Keep the area around the bottom and the top of the ladder clear of equipment, materials and tools. If access is obstructed, secure the top of the ladder to a rigid support that will not deflect, and add a grasping device to allow workers safe access.

- Set the ladder up properly. When using a step ladder make sure that the spreaders are locked in place. When an extension ladder is leaned against a wall, the bottom of the ladder should be one-quarter of the ladder’s working length away from the wall. For access to an elevated work surface, extend the top of the ladder three feet above that surface and secure the ladder at its top.

**Provide the Right Equipment** for the job.

- Use a ladder that can sustain at least four times the maximum intended load. Follow the manufacturer’s instructions and labels on the ladder. To determine the correct ladder, consider your weight plus the weight of your load. Do not exceed the load rating and always include the weight of all tools, materials and equipment.

Type	Duty Rating	Use	Load (lbs.)
1AA	Special	Rugged	375
1A	Extra Heavy	Industrial	300
1	Heavy	Industrial	250
II	Medium	Commercial	225
III	Light	Household	200

**Train Workers** to use ladders safely.

- Employers must train each worker to recognize and minimize ladder-related hazards.

**Safe Ladder Users DO:**

- Maintain a 3-point contact (two hands and a foot, or two feet and a hand) when climbing, descending or working from a ladder.

- Stay near the middle of the ladder and face the ladder while climbing up or down.
- Use a barricade to keep traffic away from the ladder.
- Keep ladders free of any slippery materials.
- Put ladders only on stable and level surfaces that are not slippery.
- Use extra care when getting on or off the ladder at the top or bottom.
- Avoid tipping the ladder over sideways or causing the ladder base to slide out.
- Carry tools in a tool belt or raise tools up using a hand line.
- Look for overhead power lines before handling or climbing a ladder.

**Safe Ladder Users DO NOT:**

- Use ladders for a purpose other than that for which they were designed. For example, do not use a folded stepladder as a single ladder.
- Use a stepladder with spreaders unlocked.
- Use the top step or cap as a step.
- Place a ladder on boxes, rocks or other unstable bases.
- Move or shift a ladder with a person or equipment on the ladder.
- Use cross-bracing on the rear of stepladders for climbing.
- Paint a ladder with opaque coatings.
- Use a damaged ladder.
- Use a ladder horizontally like a platform.
- Use a metal ladder near power lines or electrical equipment.
- Use a ladder on soft ground or unstable footing.
- Exceed the ladder’s maximum load rating.
- Tie or stack two ladders together to make them longer.
- Lean out beyond the ladder’s side rails.

