

TRAINING GUIDE

PORTABLE LADDERS



2001

Before you begin the meeting...

- Does this topic relate to the work the crew is doing? If not, choose another topic.*
- Did you read this Training Guide and fill in the blanks where the  appears? (To find the information you need, look over the Safety Walkaround Checklist for this topic.)*
- Did you bring a portable ladder so you can show the crew how to inspect it?*

Begin: Did you know that even a six-foot fall from a ladder can kill you? More often, you might break an arm or leg. When you fall off a ladder on a construction site, you can land on almost anything, so internal injuries are common.

Falls from ladders happen because you slip or because the ladder slips. If you're in a hurry, there's more chance of falling. Take the time to use the right ladder the right way.

You or a crew member may want to add a personal story about portable ladders.

Explain: The main topic today will be portable ladders. They may be either metal or wood. On many construction sites there are also fixed ladders. The safety rules for fixed ladders are a little different, and we won't cover them today.

Next, discuss with the crew what types of portable ladders will be used at this particular job site, and where:



ASK THE CREW THESE QUESTIONS:

After each question, give the crew time to suggest possible answers. Use the information following each question to add points that no one mentions.

- 1. More than half of all ladder accidents happen because the ladder slips. What are some ways to keep a ladder from slipping?**
 - Place the ladder on a firm, level surface that isn't slippery.
 - Use a ladder with safety feet, especially if you're setting it on a smooth floor.
 - Always secure portable ladders. Nail to a permanent structure, tie off, or block them.

- Make sure the ladder's supports (feet and upper risers) are free of grease and mud.
- Make sure the ladder is leaning against something secure (not a gutter, window sash, window pane, or anything that can move).
- If the ladder is leaning against a smooth surface, have wall grips on the risers to prevent side slipping.
- Don't set a ladder on top of boxes or other movable objects.
- Never use a ladder in high winds.
- Barricade a ladder if it's in an area where it could get bumped. For example, don't use a ladder in front of a door that might open, unless there is a barricade or guard.

2. What's the correct angle for a ladder?

- Set it one foot out from the wall for every four feet of ladder length (75° pitch).

3. Nearly a third of all ladder accidents happen because a person slips. What are some things you can do to keep yourself from slipping?

- Use a ladder with non-skid treads (or a non-skid coating) on the rungs.
- Make sure the rungs are free of mud, grease, and other slippery material.
- Make sure your shoes are free of mud and grease.
- When you're on a ladder, don't lean too far out—never beyond arm's length.
- When going up or down a ladder, always face the ladder and use both hands.
- Don't try to adjust an extension ladder when you're standing on a surface above it.
- Don't stand or work on the top three rungs of a straight ladder unless you're tied off. At the top, there's nothing to grip.
- Don't step on any rung above a ladder's upper support. It may cause the bottom of the ladder to kick out.
- Don't stand or work on the top (cap) of a stepladder.
- If you use a stepladder, always make sure it's fully open and locked.

4. How should you carry tools or materials up or down a ladder?

- Use a tool belt to keep your hands free.
- Pull equipment and materials up with a line.

5. To make sure your ladder is in good repair, you should inspect it before and after each job. When you inspect a ladder, what should you look for?

Using the portable ladder you brought to the meeting, demonstrate the points below.

- All rungs are connected securely to the side rails.
- No rungs or side rails are missing, loose, broken, cracked, or corroded.
- No nails, screws, or rivets are sheared off or missing.

6. What if a ladder is defective?

- If you notice an unsafe ladder don't use it. Report it right away.
- Defective ladders should be removed from service and tagged.

7. What are some things to keep in mind when you're choosing a ladder for a specific job?

- Use a ladder that is safety-approved. Look for a label showing that it meets American National Standards Institute (ANSI) safety requirements.
- Use a ladder of the right length. The side rails should extend at least three feet, but not more than four feet, above the ladder's upper support.
- Use a ladder that's strong enough to support you.
- **Never** splice two ladders together.
- Don't let more than one person at a time on a ladder unless you're using a ladder that's specially designed for that purpose.
- Don't use a metal ladder near live electrical parts or within six feet of high voltage electrical lines. (Increase the distance for very high voltage). Remember that electricity can arc. Portable metal ladders should have a warning label on them to remind you.
- Don't use a ladder for anything but its intended purpose. For example, don't use it as a brace or skid. Don't use it horizontally as a walkway or scaffold.

CAL/OSHA REGULATIONS

Explain: Most of the safety measures we've talked about are required by Cal/OSHA. We have to take these precautions—it's the law. I have a Checklist of the Cal/OSHA regulations on portable ladders. If you'd like to know more, see me after the meeting.

COMPANY RULES

(Only if applicable.) Besides the Cal/OSHA regulations, we have some additional company rules about portable ladders.

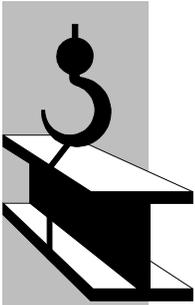
Discuss company rules: _____



COMMENTS FROM THE CREW

Ask: Do you have any other concerns about portable ladders? Do you see any problems on our job? *(Let the steward answer first, if there is one.)*

What about other jobs you've worked on? Have you had any experience with portable ladders that might help us work safer on this job?



Sheet Metal Worker Dies After Fall from Ladder

A 46-year-old sheet metal worker died when he fell off an 8-foot stepladder and struck his head on the edge of a metal floor plate.

The worker was doing sheet metal work on a hospital addition. He and two co-workers were adding a fire damper (a fire safety device) to a previously installed sheet metal duct.

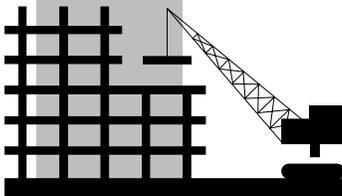
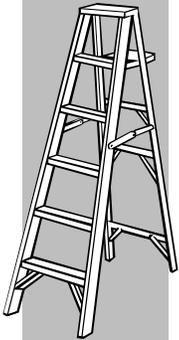
The job was difficult, and the sheet metal worker had to move up and down several steps of the ladder, struggling to make the connection. He was reaching on both sides of the wall, which was in the framed stage, to try to make the damper slip into the duct.

At the time of the accident, the sheet metal worker had his right foot on the 5th step of the ladder, at a height of 4 feet, 9 inches. His left foot was on the step above. According to a co-worker, the ladder spun around and tangled his legs in the steps. He fell head first to the concrete floor, striking his head on a metal floor plate.

One co-worker said the sheet metal worker might have extended himself out too far from the ladder, or lost his balance.

April 22, 1998

What should have been done to prevent this accident?



Preventive Measures

Cal/OSHA investigated this accident and made the following recommendations.

Employers should:

- Ensure that workers use ladders in a safe manner. For example, workers should not reach out too far from a ladder, or move too high up a ladder.
- Ensure that portable ladders are secure.
- Ensure that workers reposition ladders or use alternate means to access their work.

This Case Study is based on an actual California incident. For details, refer to California Dept. of Health Services, Occupational Health Branch, Fatality Assessment and Control Evaluation (FACE) Report #98CA00601.