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# **LADDER SAFETY**

**Leader's Guide, Fact Sheet  
& Quiz**

**Item Number: 4282**

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***This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation.***

## **PREPARING FOR THE MEETING**

Here are a few suggestions for using this program:

- a) Review the contents of the Fact Sheet that immediately follows this page to familiarize yourself with the program topic and the training points discussed in the program. The Fact Sheet also includes a list of Program Objectives that details the information that participants should learn from watching the program.
- b) If required by your organization, make an attendance record to be signed by each participant to document the training to be conducted.
- c) Prepare the area and equipment to be used for the training. Make sure the watching environment is comfortable and free from outside distractions. Also, ensure that participants can see and hear the TV screen or computer monitor without obstructions.
- d) Make copies of the Review Quiz included at the end of this Leader's Guide to be completed by participants at the conclusion of the presentation. Be aware that the page containing the answers to the quiz comes before the quiz itself, which is on the final page.

## **CONDUCTING THE PRESENTATION**

- a) Begin the meeting by welcoming the participants. Introduce yourself and give each person an opportunity to become acquainted if there are new people joining the training session.
- b) Introduce the program by its title and explain to participants what they are expected to learn as stated in the Program Objectives of the Fact Sheet.
- c) Play the program without interruption. Upon completion, lead discussions about your organization's specific policies regarding the subject matter. Make sure to note any unique hazards associated with the program's topic that participants may encounter while performing their job duties at your facility.
- d) Hand out copies of the review quiz to all of the participants and make sure each one completes it before concluding the training session.

# 4282 LADDER SAFETY FACT SHEET

**LENGTH: 17 MINUTES**

## **PROGRAM SYNOPSIS:**

Ladders are a pretty common and useful fixture both on and off the job. Most of us have probably used one or more types of ladders in our lifetime. While you may feel familiar with and comfortable working with ladders, there's more to working safely with ladders than just setting one up and climbing it. The tragic fact is that every year 300 people are killed and 165,000 injured while using ladders. That's about one death and 500 people injured per day and recent studies show those numbers are rising. So obviously there are some important safety considerations and techniques we all need to be familiar with, if we're going to use ladders.

This program will help keep you and your employees safe while using ladders. Topics include selection of the right ladder, ladder inspection, transporting a ladder, ladder set up, ascending a ladder and working on a ladder.

## **PROGRAM OBJECTIVES:**

After watching the program, the participant should be able to explain the following:

- How to select the right ladder for the task;
- How to inspect a ladder;
- How to transport a ladder properly;
- How to correctly set up a ladder;
- How to ascend and descend a ladder safely;
- How to safely work on a ladder.

## **PROGRAM OUTLINE:**

### **SELECTING THE RIGHT LADDER**

- First of all, we need to know how to select the proper ladder.
- The two most common types of ladders are step ladders and straight ladders. Straight ladders can be a single length or an extension ladder.
- Most step and straight ladders are made from wood, fiberglass or aluminum. While having the benefit of being lightweight, aluminum ladders can conduct electricity, so never use an aluminum ladder if you are working near sources of electricity.
- Another important consideration is the length of the ladder needed. Many people are injured or killed each year by working from a ladder that is too short for the task.
- We also need to make sure the ladder is strong enough for the work load. Ladders are classified by duty ratings—the amount of weight they are designed to carry.
- Ladder manufacturers are required to supply a label on each ladder indicating the ladder's duty rating.
- The five categories of ladder duty ratings are Type III (light duty) supporting only up to 200 pounds, Type II (medium duty) supporting 225 pounds, Type I (heavy duty) supporting 250 pounds, Type IA (extra heavy duty) supporting 300 pounds and Type IAA (extra heavy duty) supporting up to 375 pounds.
- In addition to considering your own weight, you also need to include the weight of any tools, supplies or materials the ladder may need to support while you are using it.
- Finally consider whether using a ladder is the proper way to perform your task. If you are going to use heavy or awkward materials or tools, or if you will need to move from side to side, you should use a scaffold or aerial work platform instead of a ladder.
- If you can avoid using a very tall ladder by using a lift, by all means do it if you have the appropriate training.

### **INSPECTING THE LADDER**

- The next step in using ladders safely is to inspect the ladder.
- Look for loose or worn rungs.
- Check the rails for cracks or corrosion and make sure they are straight, not bowed or dented.

- Look for any loose or missing hardware, such as screws, bolts or hinges.
- Check the rope on extension ladders. If it's frayed or damaged, don't use it.
- Also, make sure the extension locks are working correctly.
- Check the feet of the ladder and replace any worn or damaged feet or pads.
- On step ladders, make sure the spreaders are in good condition and lock securely.
- A step ladder shouldn't wobble on a flat surface.
- Replace any damaged or missing labels.
- Tag any damaged or defective ladder. Take it out of use immediately.
- Never paint a wooden ladder. Paint may hide defects.

## **TRANSPORTING THE LADDER**

- Getting the ladder to the work area safely sounds simple, but it's not always.
- Carry your ladder by the side rail and horizontal to the ground.
- Both step ladders and extension ladders should be fully closed before carrying them.
- Don't hesitate to get help with long or heavy ladders.
- Don't drag a ladder on the ground or pavement. This can damage the feet and pads.
- When approaching blind corners, raise the forward end of the ladder, if possible, and move slowly.
- Carry extension ladders fully closed, not extended.
- Transporting ladders can be a hazard to other personnel or equipment, so take it seriously and do it safely.

## **SETTING UP THE LADDER**

### ***Preparing The Set Up Area***

- The next step is to set up your ladder correctly and safely. First some general rules, then we'll discuss setting up step ladders and extension ladders.
- First of all, look over your work location for potential hazards.
- Look for any overhead power lines or electrical sources. Stay at least 10 feet away from any electrical sources unless, of course, you are authorized to work in the area and have taken all the necessary safety precautions.
- Clear away any debris, objects or obstructions from the base of the ladder.
- Try to avoid traffic areas: vehicle or pedestrian traffic. If you have to work near other people, you may need to barricade the area or have a co-worker stand by to alert others to the hazard of the ladder or the potential of falling objects.
- If you must set up a ladder in front of or near a door, make sure the door has been secured and have a co-worker stand watch. The watch person should be able to redirect traffic if the door is an entrance or exit way.

### ***Step Ladders***

- Step ladders are to used only when open and stable.
- Don't use step ladders folded and leaned against a structure. The feet are designed to be flat on the floor while spread.
- Whenever possible, step ladders should be positioned so you face the ladder while working, not turning sideways.
- When using a tall step ladder, it is sometimes necessary to set it so it is parallel to the wall or surface you are working on.
- Never stand or climb on the back of a step ladder.

### ***Extension Ladders***

- Extension ladders usually take more effort to set up than step ladders.
- First, position the feet of the ladder at the base of the structure. If that is not possible, have a person block the ladder with their feet.
- The lower or base section of the ladder should be on the top and the upper or fly section should be on the ground or pavement.
- Raise the ladder by walking forward, lifting the ladder rung by rung. If the ladder is too heavy for you, just reverse your movements and go get help.
- Next, move the ladder away from the structure to approximately the position it will be at when you are working on it.
- Raise the upper section by pulling the rope. You can stabilize it by putting a foot on the bottom rung and leaning it on your knee.

- Raise the ladder three feet higher than you plan to stand. If you are going to access a surface from the ladder, raise it three feet higher than the surface.
- When you get it to the height you need, relax the rope so the upper section drops slightly and the locking hooks engage and lock securely.

### ***Securing The Ladder At the Correct Angle***

- Now, finish positioning the ladder so that it sits at the correct angle. The base of the ladder should be one foot from the object it is leaning on for every four feet of height.
- For example, if the top of a ladder is 16 feet above the floor, the base should be four feet from the wall.
- A good way to check this angle is to put your toes against the base of the rails and extend your arms toward the ladder. Your hand should just reach the ladder rungs.
- If your hands extend past the ladder rungs, the ladder is too steep. If you can't reach the rungs, the ladder's angle is too shallow.

### ***Ensuring Firm & Level Footing***

- Make sure the ladder is on firm and level footing.
- If the ground is soft, you can use a piece of plywood or large board, but don't use small pieces of lumber that may slip out of place.
- It is important that a ladder is on level footing because a 20-foot ladder that is out of level by one inch at the bottom will be out of plumb by 20 inches at the top and very unstable.
- Use a level to check plumb if you don't have a good vertical reference.
- If you are accessing elevated surfaces such as a roof, the ladder should extend three feet above the roofline and if possible, be tied off. This will help you get on and off the ladder at the elevated surface.
- Don't overextend the ladder. Pressure on the upper end could cause the feet to lift off.

## **ASCENDING THE LADDER**

- When your ladder is set properly, make sure your shoes or boots are clean. Make sure the rungs of the ladder are clean also.
- Put any tools you need in your tool belt or have someone hand them up to you if possible. Position your tool belt so it doesn't snag on the ladder as you climb.
- Hauling tools or parts up using a rope and bucket is another way to avoid carrying objects while climbing.
- You want to use three points of contact when climbing the ladder. This means having one hand and two feet or two hands and one foot in contact with the ladder at all times.
- Grasp the ladder rungs with your hands when climbing. If your foot slips, the rungs are easier to hold onto than the side rails.
- Don't rush. Climb carefully and intentionally. Hurrying can cause the ladder to vibrate and lose stability.
- Climb down the ladder the same careful way you climbed up—facing the ladder and using three points of contact and taking your time.
- On extension ladders, be careful positioning your foot at the point that the rungs switch from double rungs to single rungs.
- If you must leave it unattended for a while, it's a good idea to place a warning cone at the base to indicate it is in use.
- If you are finished using the ladder, put it in its approved storage area.

## **WORKING ON A LADDER**

- It's important to avoid overreaching while on a ladder, either horizontally or vertically.
- Here's a simple rule to remember: Keep your belt buckle within the rails of the ladder. If you can't reach your work while adhering to the belt buckle rule, climb down and move your ladder.
- Another good rule is to keep your belt buckle below the top of the ladder.
- Ladders will have a sticker warning you not to use the top two steps of a step ladder or the top three rungs on a straight ladder, but using the belt buckle rule no matter what step or rung you are on is the safest way to ensure your balance and stability.
- Also, if you need to work with both hands on occasion, this allows you to use your body as the third point of contact.
- If you can't reach your work while keeping your waist below the top of the ladder, you should use a taller ladder.
- Never leave tools on top of a step ladder and never climb on the back of a ladder.

## **ADDITIONAL SAFETY TIPS**

- You can pound stakes behind the feet of an extension ladder that is on soft ground or make cleats if the ladder is on a wood surface.
- Turn up the feet on an extension ladder to allow them to dig into soft ground. Of course, never do this on smooth surfaces; the rubber feet provide grip on smooth surfaces.
- If possible, tie off the ladder to a sturdy, immobile object with a rope or strap. The higher the tie off, the more stable the ladder will be.
- Of course, it's often helpful to have someone hold the ladder for stability.
- There are ladder accessories available to help stabilize your ladder. Ladder leg extenders and levelers can help when you are working on uneven ground.
- There are rail end covers that not only protect the surface the ladder rests on, but makes the ladder less prone to slip on smooth surfaces.
- There are a variety of stabilizing bars that can attach to the upper area of your ladder.
- Besides the common step ladder, there are special types of step ladders such as platform ladders, which give you room to stand and move and twin step ladders, which allow two people to work on opposite sides of the ladder.

## **SUMMARY**

- Ladders can be essential tools for getting some jobs done. So remember these six steps for safe ladder use:
  - ❶ Select the correct ladder for the job.
  - ❷ Inspect the ladder to make sure it's in proper working order.
  - ❸ Transport it safely, for you, other workers and for the integrity of the ladder.
  - ❹ Set the ladder up correctly and be aware of hazards.
  - ❺ Always use three points of contact when ascending and descending.
  - ❻ Remember the belt buckle rule when working on the ladder. Don't overreach.

## LADDER SAFETY

### ANSWERS TO THE REVIEW QUIZ

1. c
2. a
3. c
4. b
5. b
6. c
7. b
8. a
9. b
10. a

**LADDER SAFETY**  
**REVIEW QUIZ**

*The following questions are provided to determine how well you understand the information presented in this program.*

Name \_\_\_\_\_ Date \_\_\_\_\_

1. The Duty Rating of a ladder refers to \_\_\_\_\_.
  - a. The type of work that can be performed on the ladder
  - b. Years of service the ladder will provide
  - c. The weight the ladder will safely support
2. The strongest duty rating is \_\_\_\_\_.
  - a. Type IAA
  - b. Type IA
  - c. Type III
3. All ladders should be carried \_\_\_\_\_.
  - a. Vertically
  - b. At a 45-degree angle
  - c. Horizontally
4. Step ladders can be used like straight ladders if they are long enough.
  - a. True
  - b. False
5. If the top of an extension ladder is 20 feet above the ground, how far from the wall should the base be?
  - a. 4 feet
  - b. 5 feet
  - c. 6 feet
6. When accessing an elevated surface with a ladder, the top of the ladder should be \_\_\_\_\_ the surface.
  - a. 6 feet above
  - b. Even with
  - c. 3 feet above
7. Climbing the back side of a step ladder is permissible when your weight is below the ladder's Duty Rating.
  - a. True
  - b. False
8. Turning up the feet on an extension ladder on soft ground can improve stability.
  - a. True
  - b. False
9. When approaching a corner with a long ladder, you should point the front end toward the floor or ground if possible.
  - a. True
  - b. False
10. You can use your body as the third point of contact with a ladder if you must use both hands to perform a task.
  - a. True
  - b. False