

## **Ladder Safety Program**

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# **Introduction and Purpose**

Ladder safety is a life saving program at our Company.

Remember that practically all falls from ladders can be traced to using them in an unsafe manner.

This program applies to all Company employees that use ladders in the course and scope of performing their duties.

## Ladder Safety Program

# Ladder Hazards

Hazards include:

- Ladders with missing or broken parts
- Using a ladder with too low a weight rating
- Using a ladder that is too short for purpose
- Using metal ladders near electrical wires
- Using ladders as a working platform
- Objects falling from ladders



## Ladder Safety Program

# Ladder Safety

Ladder safety begins with the selection of the proper ladder for the job and includes inspection, setup, proper climbing and standing, proper use, care and storage. In addition to the general safety rules for all ladders there are special rules for using stepladders and for single and extension ladders.

These safety rules are a combination of OSHA regulations and proven commonsense procedures. This combination of safe equipment and its safe use can eliminate most ladder accidents.

## Ladder Safety Program

# General Rules: Ladder Selection

1. Be sure the ladder being used has the proper duty rating (maximum weight capacity) to carry the combined weight of the user and the materials being installed.

### The Four Categories of Duty Ratings

Type	Duty Rating	Recommended/Approved For
IA	300 pounds	Extra-heavy-duty industrial use
I	250 pounds	Heavy-duty use
II	225 pounds	Medium-duty use
III	200 pounds	Light-duty use

## Ladder Safety Program

# General Rules: Ladder Selection

2. Type IA and Type I ladders are the only acceptable ladders on a construction jobsite.
3. The American National Standards Institute (ANSI) requires that a duty rating sticker be placed on the side of every ladder so users can determine if they have the correct type ladder for each task/job.
4. Be sure that metal steps and rungs are grooved or roughened to prevent slipping.

## Ladder Safety Program

## General Rules: Ladder Selection

5. Use the proper size ladder for the job. The average craftsman will generally work most comfortably at his shoulder level, which is about 5 feet above where he stands. Since the height would be about 3 feet above the top of the ladder or 5 feet minus 2 feet. For example, a 5-foot stepladder would give an effective working height of 8 feet or 5 feet plus 3 feet. When using straight or extension ladders, the craftsman stands 3 feet down from the top, which gives an effective working height of 2 feet above the ladder top.

## Ladder Safety Program

## General Rules: Ladder Inspection

Inspect ladders before each use and make sure:

- ✓ All rungs and steps are free of oil, grease, dirt, etc.
- ✓ All fittings are tight
- ✓ Spreaders or other locking devices are in place
- ✓ Non-skid safety feet are in place
- ✓ No structural defects, all support braces intact



**NEVER** use a defective ladder!

Tag it "Defective" and report it to your supervisor so that it may be removed from use.



**Ladder Safety Program**

## General Rules: Ladder Setup

1. Place ladder feet firmly and evenly on the ground or floor. Make sure the ladder is sitting straight and secure before climbing it. If one foot sits in a low spot, build up the surface with firm material.
2. Do not try to make a ladder reach farther by setting it on boxes, barrels, bricks, blocks or other unstable bases.
3. Do not allow ladders to lean sideways. Level them before using.
4. Brace the foot of the ladder with stakes or place stout boards against the feet if there is any danger of slipping.

**Ladder Safety Program**

## General Rules: Ladder Setup

5. Never setup or use a ladder in high wind, especially a lightweight metal or fiberglass type. Wait until the air is calm enough to insure safety.
6. Never set up a ladder in front of a door unless the door is locked or a guard is posted.
7. Do not use ladders on ice or snow unless absolutely necessary. If they must be used on ice or snow, use spike or spur-type safety shoes on the ladder feet and be sure they are gripping properly before climbing.
8. Use safety shoes on ladder feet whenever there is any possibility of slipping.

## Ladder Safety Program

## General Rules: Climbing & Standing

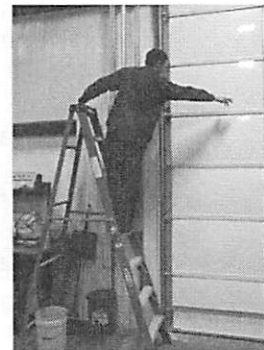
1. Keep the steps and rungs of ladders free of grease, oil, wet paint, mud, snow, ice, paper and other slippery materials. Also clean such debris off your shoes before climbing a ladder.
2. Always face a ladder when climbing up or down. Use both hands and maintain a secure grip on the rails or rungs.
3. Never carry heavy or bulky loads up a ladder. Climb up yourself first, and then pull up the material with a rope.
4. Climb and stand on a ladder with your feet in the center of the steps or rungs.



## Ladder Safety Program

## General Rules: Climbing & Standing

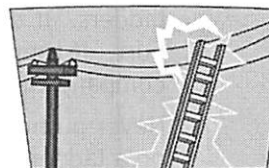
5. Do not overreach from a ladder, or lean too far to one side. Overreaching is probably the most common cause of falls from ladders. A good rule is to always keep your belt buckle inside the rails of a ladder. Work as far as you can reach comfortably and safely, then move the ladder to a new position.
6. Never climb onto a ladder from the side, from above the top or from one ladder to another.
7. Never slide down a ladder.



**Ladder Safety Program**

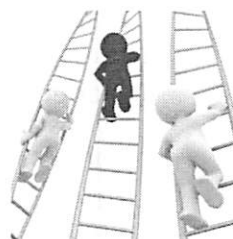
## General Rules: Proper Use of Ladders

1. Never use metal ladders around exposed electrical wiring. Metal ladders should be marked with tags or stickers reading "CAUTION - Do Not Use Around Electrical Equipment" or similar wording. RULE OF THUMB: If the overhead power line is 50 kV or less, then stay at least 10 feet away. For everything else, keep at least 35 feet away.
2. When using a ladder where there is traffic, erect warning signs or barricades to guide traffic away from the foot of the ladder. If this is not possible, have someone hold and guard the bottom of the ladder.

**Ladder Safety Program**

## General Rules: Proper Use of Ladders

3. Do not try to move a ladder while you are on it by rocking, jogging or pushing it away from a supporting wall.
4. Never use a ladder when under the influence of alcohol, on drugs or medication, or in ill health.
5. If you get sick, dizzy or panicky while on a ladder, do not try to climb down in a hurry. Wait. Drape your arms around the rungs; rest your head against the ladder until you feel better. Then climb down slowly and carefully.



## Ladder Safety Program

## General Rules: Proper Use of Ladders

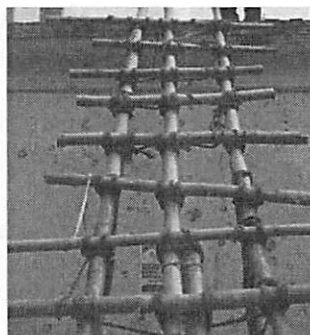
6. Do not leave tools or materials on top of ladders. If they fall on you, you can be hurt. If they fall on someone else, your company can be sued.
7. Never push or pull anything sideways while on a ladder. This puts a side load on the ladder and can cause it to tip out from under you.
8. Allow only one person at a time on a ladder unless the ladder is specifically designed for two people.



## Ladder Safety Program

## General Rules: Proper Use of Ladders

9. Never use a ladder as a horizontal platform, plank, scaffold or material hoist.
10. Be cautious about homemade ladders. Never use ladders made by fastening cleats across a single narrow rail, post or pole.
11. Never use a ladder on a scaffold platform. If you need to reach higher, the scaffold should be higher.





## Ladder Safety Program

# General Rules: Proper Care and Storage

1. Maintain ladders in good condition.
2. Keep all ladder accessories, especially safety shoes, in good condition.
3. Wood ladders, which are to be used outside, should be treated to prevent weather damage. A clear finish or transparent penetrating preservative should be used. Linseed oil is a good treatment for a wood ladder, although it does add some weight to the ladder. An oil treatment also helps to rustproof the metal ladder parts.
4. Never paint a wood ladder. This will cover dangerous cracks or fill and hide them.
5. Never sit on ladder side rails.

## Ladder Safety Program

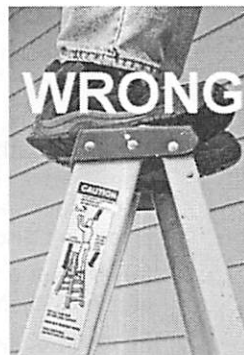
# General Rules: Proper Care and Storage

6. Never use a metal or fiberglass ladder which has been exposed to fire or strong chemicals, it should be discarded.
7. Never store materials on a ladder.
8. Store wood ladders where they will not be exposed to excessive heat or dampness. Store fiberglass ladders where they will not be exposed to sunlight or other ultraviolet light sources.
9. Be sure that ladders are properly supported and secured when in transit. Vibration and bumping against other objects can damage them.
10. Store ladders on racks, which give them proper support when not in use.

## Ladder Safety Program

## Stepladder Rules: Stepladder Safety

1. Never use a stepladder over 20 feet long.
2. Always open a stepladder completely and make sure the spreader is locked open before using the ladder.
3. Never substitute makeshift devices of wire or rope for stepladder spreaders.
4. Do not stand higher than the second step from the top of a stepladder. Especially, do not stand or sit on the top cap, or stand on the pail shelf, or on the back of a stepladder.
5. Do not straddle the front and back of a stepladder.

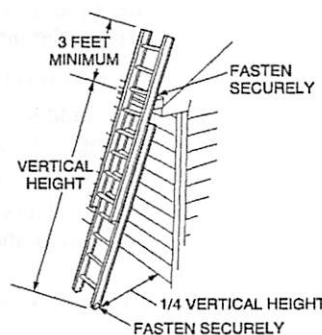


## Ladder Safety Program

## Single and Extension Ladder Safety Rules

1. Remember that the sections of an extension ladder should overlap enough to retain the strength of the ladder using the following table:

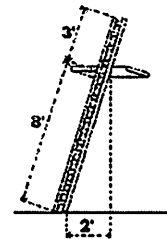
<u>Length of Ladder</u>	<u>Required Overlap</u>
Up to 36 feet	3 feet
Over 36 to 48 feet	4 feet
Over 48 to 60 feet	5 feet



## Ladder Safety Program

# Single and Extension Ladder Safety Rules

2. Of course, the usable length of the ladder is shortened by the amount of the overlap.
3. Never splice or tie two short ladders together to make a long section.
4. Top support for a ladder is as important as good footing. The top should rest evenly against a flat, firm surface. If a ladder is to be leaned against roof gutters, the strength and stability of the gutters should first be tested.
5. When a ladder is used for access to an upper landing surface, it must extend three rungs, or at least three feet above the landing surface.



## Ladder Safety Program

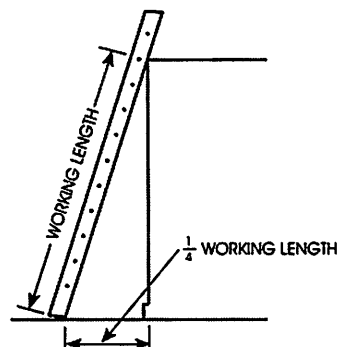
# Single and Extension Ladder Safety Rules

6. A ladder used for access to an upper landing surface should be secured against sideways movement at the top or held by another worker whenever it is being used.
7. Extend an extension ladder only from the ground. Determine the needed height, extend and lock the fly section securely in place then set it up against the wall. Check for stability and support before climbing.
8. If possible, the base of a long ladder should be secured to the ground and the top should be tied to the upper landing surface.
9. Never stand on the two top rungs of a straight or extension ladder.

## Ladder Safety Program

# Single and Extension Ladder Safety Rules

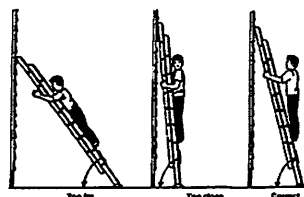
10. The technically proper angle for a non-self-supporting ladder is about 75 degrees above horizontal. This means that the base should be set out one-fourth of the ladder's height to its top support point. For example, if a ladder is to be supported at a point 20 feet off the ground, its base should be set 5 feet out from the wall ( $20 \div 4 = 5$ ). An easy way to measure this, if the ladder top will rest against the wall, is to pace off the length of the ladder or count rungs, and divide by four to get the proper distance from the wall for placing the foot of the ladder.



## Ladder Safety Program

# Single and Extension Ladder Safety Rules

11. If ladders are set up at a steeper angle than 75 degrees above horizontal they are more likely to tip backwards in use. As a minimum they must be tied off at the top to prevent this from happening.
12. If ladders are set up at an angle less than 75 degrees above horizontal they are more likely to slide out from the bottom. Safety ladder shoes or base tying is a must in this case.



13. The distance from the foot of a ladder to the wall should never be more than one-half the height to the support point, an angle of about 63 degrees above horizontal. Otherwise, more strain will be put on the side rails than they are designed to carry.

## Ladder Safety Program

## Single and Extension Ladder Proper Care

1. Metal bearings of extension ladder run locks and pulleys should be lubricated periodically, and between regular maintenance periods whenever necessary.
2. Ropes on extension ladders should be in good condition. If they become frayed or badly worn, replace them.



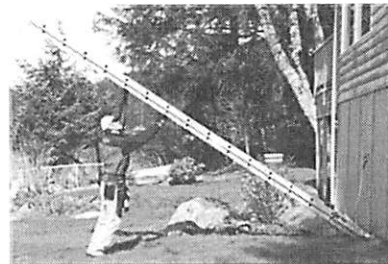
## Ladder Safety Program

## Single and Extension Ladder Setup

It is very important to learn the proper methods for setting up ladders. Unless setting up is done correctly, it can cause damage to the ladder and excessive physical strain on the user.

Step 1 - Lay the ladder on the ground with the base resting against the bottom of the wall and the top pointing away from the wall.

Step 2 - Starting at the top of the ladder, lift the end over your head and walk under the ladder to the wall, moving your hands from rung to rung as you go.



**Ladder Safety Program**

## Single and Extension Ladder Setup

Step 3 - When the ladder is vertical, and the top touches the wall, pull out the base so that the distance away from the wall is about one-fourth of the height to the point of support.

Step 4 - Reverse this process to take down the ladder. Remember that you will be walking backwards, so check for obstacles in your path before starting. Also be careful to lower the ladder slowly so that you can keep it under control and prevent its falling on you.

**Ladder Safety Program**

## Ladder Safety Program

More than 90,000 people receive emergency room treatment from ladder related injuries every year.

Elevated falls account for almost 700 occupational deaths annually.

Most ladder accidents are the result of careless or improper ladder usage.

Always use good ladder safety techniques. The life you save could be your own!



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## Questions?

