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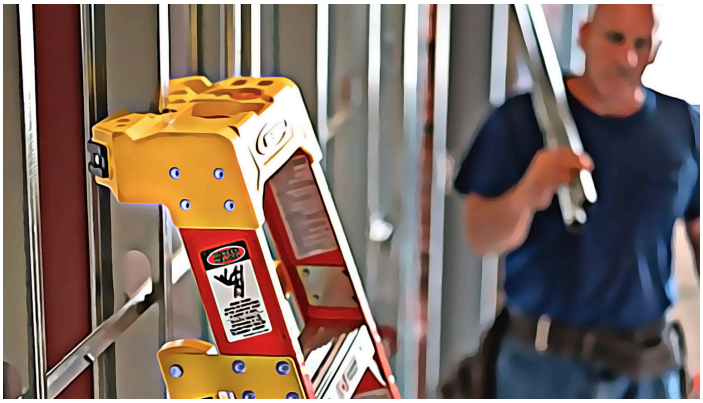
# Ladder Safety Tips For Pros



## Improper ladder use can lead to fatalities

Unfortunately, one of the tools concrete contractors use most often can be the most dangerous. Improper ladder use plays a part in one of every three fatalities on today's jobsites. And the failure to use a stepladder properly was also the sixth most common citation (2,567) issued by OSHA inspectors in 2017 (http://www.safetyandhealthmagazine.com/articles/16362-oshas-top-10-most-cited-).

These numbers aren't likely to improve until everyone clearly understands when a ladder should be used. OSHA is very specific about when and whe e contractors should provide ladders for their workers. They stipulate that a stairway or ladder must be provided at all worker points-of-access when there's an elevation break greater than 19 inches with no ramp, runway, embankment or personnel hoist available. A discussion of safe access to work places, including ladder use, should be a part of every pre-job safety review with the general contractor.

## Four common ladder mistakes contractors must avoid

1. Selecting the wrong type of ladder
2. Using worn or damaged ladders
3. Incorrect use of ladders
4. Incorrect placement of ladders

Contractors know the right tool choice can make a big difference in productivity and safety. There's no one-size-fits all answer for which ladder should be used in each specific situ tion. Ladders required for installing flashings around windows may be different than ladders used to access below-grade foundations.

## Steps to follow when selecting a ladder

1. **Match the ladder's duty rating** to the worker's task. Each ladder is designed to support a maximum safe weight limit. If th user exceeds that limit, the ladder could fa – resulting in a fall or injury. Manufacturer provide a Duty Rating for their ladders to help contractors make a safe selection.

2. **The duty rating is the maximum weight capacity** the ladder can safely bear. Supervisors can calculate the total amount of weight the ladder will be supporting by adding the combined weight of the worker, protective equipment, tools and supplies that will be carried plus the tools and supplies stored on the ladder.

**Human error is often the leading cause of ladder accidents. Here are some suggestions that a superintendent can include in a pre-task safety review to avoid mishaps:**

- Never use a ladder in any way other than the manufacturer's intended use.
- Never lengthen or alter a ladder in any way. Select the proper ladder length for the task at hand. It's not safe to use a ladder that's too long or too short. Be sure to follow safety standards required on ladder labels that indicate the highest standing level.
- Never stand on the top cap, or the step below the top cap, due to a higher risk of losing your balance.
- Never use the top three rungs of an extension ladder for climbing.
- Always maintain 3 points of contact while using a ladder to maintain stability.
- Never attempt to reach for something while on the ladder. It's much safer to get off the ladder o move it and then climb back up to access the item without having to stretch too far.

- Transport ladders properly. Ladders must be properly supported on ladder racks. The support points should be constructed of material such as wood or rubber-covered pipe to minimize the effects of vibration, chafing and load shock. Secure the ladder to each support point to greatly reduce the damaging effects of road shock.
- Keep overhang beyond the support points of the rack to a minimum.
- Ladder storage racks should have sufficient supporting points to avoid sagging, which can warp the ladder. Materials must not be placed on the ladder while in storage.

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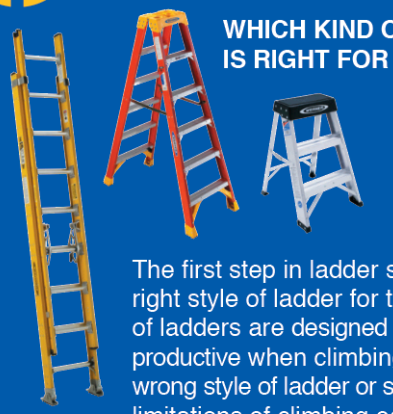
# Ladder Selection

## STEP 1 SELECT STYLE



**WHICH KIND OF LADDER IS RIGHT FOR THE JOB?**

The first step in ladder selection is choosing the right style of ladder for the job. Different styles of ladders are designed to keep you safe and productive when climbing or standing. Using the wrong style of ladder or simply ignoring the limitations of climbing equipment, can result in a fall or serious injury.

## STEP 2 SELECT HEIGHT

| STEPLADDERS | |
|---|---|
| Ladder Height† | Maximum Reach* |
| 4' | 8' |
| 5' | 9' |
| 6' | 10' |
| 7' | 11' |
| 8' | 12' |
| 10v | 14' |
| 12' | 16' |
| 14' | 18' |
| 16' | 20' |

| EXTENSION LADDERS | |
|---|---|
| Ladder Height† | Maximum Reach* |
| 16' | 15' |
| 20' | 19' |
| 24' | 23' |
| 28' | 27' |
| 32' | 31' |
| 36' | 34' |
| 40' | 37' |

*Assumes a 5'6" person with a vertical 12" reach.

## STEP 3 SELECT PERFORMANCE

WERNER PERFORMANCE SYSTEM™

Color Match for Ladder Performance.™

| Type III Light Duty | Type 1A (Medium Duty) | Type 1A (Heavy Duty) | Type IA (Extra Heavy Duty) | Type IAA (Extra Heavy Duty) |
|---|---|---|---|---|
| 200 lbs. ★ | 225 lbs. ★★ | 250 lbs. ★★★ | 300 lbs. ★★★★ | 375 lbs. ★★★★★ |

Combined weight of user and materials. Be sure to consider future projects and other users.

## STEP 4 SELECT MATERIAL

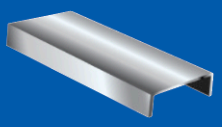
**FIBERGLASS**

*For working around electricity*
*Non-conductive side rails*

Strong seven layer construction

**ALUMINUM**

*Not for use around electricity*
*Lightweight*

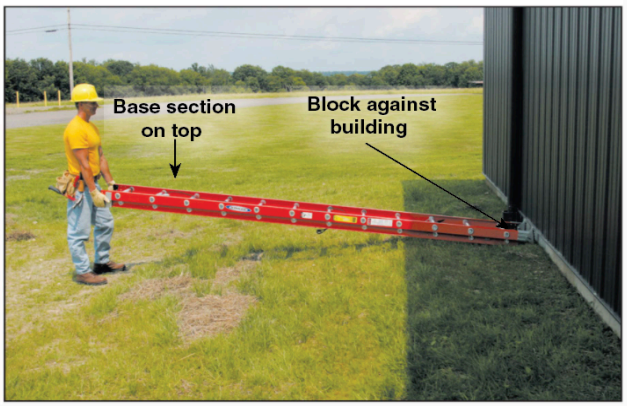


# Ladder common citation

| OSHA Fine | Ladders |
|---|---|
| Code | 29 CFR 1926.1053(b)(1) |
| Title | Portable ladder access |
| Description | When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend at least 3 feet (.9 m) above the upper landing surface to which the ladder is used to gain access; or, when such an extension is not possible because of the ladder's length, then the ladder shall be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grab rail, shall be provided to assist employees in mounting and dismounting the ladder. In no case shall the extension be such that ladder deflection under a load would, by itself, cause the ladder to slip off its support. |

# EXTENSION LADDER SET-UP

## Step 1
### BLOCK THE FEET



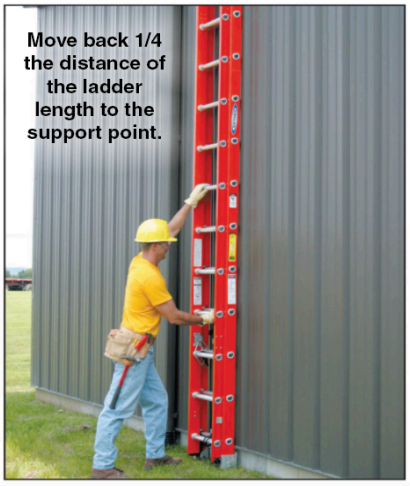

The ladder should be closed. Position the ladder with the base section on top of the fly section. Block or "foot" the ladder against the base of the building or another secure object.

## Step 2
### WALK IT UP


First check for sufficient overhead clearance and make sure there are no power lines. Carefully erect the ladder by "walking" it up to a vertical position. Be sure the bottom is securely blocked against a fixed object or "footed" by another person.

**NOTE: While raising an extension ladder, keep knees bent slightly and back straight to avoid lifting injuries.**

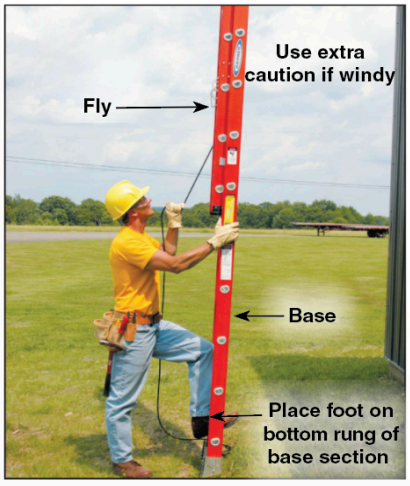
## Step 3
### LIFT INTO POSITION




Move the ladder away from the building so that it can be set at the proper angle. Carefully and firmly grip the ladder before moving – keep it vertical.

Get help with heavier ladders.

## Step 4
### RAISE FLY SECTION




Carefully raise the fly section using the rope and pulley system. After the bottom rung of the fly section clears the bottom rung of the base section, place one foot on the base rung to provide continuous firm footing.

## Step 5
### PLACE AGAINST BUILDING


Carefully lean ladder against building at the correct 75-½° angle. The base should be 1 foot out for each 4 feet of ladder length to the upper support point. Extend the ladder 3 feet above the roof edge for access. Be sure both end caps or contact points are resting

## The hidden dangers in worn or damaged ladders

Crews must perform thorough inspections on each ladder before using them. If any damage is found, don't use it. Be sure to find a qualified epair technician if you decide to repair the damage to the manufacturer's specific tions. Most of the time it's best to just replace the ladder.

- Examine the ladder's feet. Most are covered with a slip-resistant material that must be evaluated and determined to be in good condition before each use.
- Ladders exposed to excessive heat, like a fi e, may have reduced strength.
- Ladders exposed to corrosive substances such as acids or alkali materials may experience chemical corrosion and reduced strength.
- Broken or bent ladders and ladders with missing or worn out parts should be taken out of service and marked (Dangerous – Do Not Use) until professionally repaired or destroyed.
- No attempt should be made to repair a ladder with a defective side rail. Ladders with bent or broken side rails must be permanently taken out of service and destroyed.
- In the event a ladder is discarded, it must be destroyed in such a manner as to render it useless.

## Putting ladders in their place

Superintendents should review proper ladder placement procedures with each crew. Here are talking points to include in a safety talk:

- Be sure to position a ladder on firm, l vel ground.
- Ladders should never be placed in front of a door that is not locked, blocked or guarded.
- Ladders must not be used on ice, snow or slippery surfaces, unless suitable means to prevent slipping are employed.
- Ladders must never be placed upon other objects such as boxes, barrels, scaffolds or other unstable bases in an effort to obtain additional height.
- Ladders must not be tied or fastened together with any other type of ladder to provide a longer length.

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