Extension Ladder Safety

What is an Extension Ladder

WAC 296-876-099 defines an extension ladder as "A non-self-supporting portable ladder which is adjustable in length." Also known as "portable ladders," extension ladders usually have two sections that operate in brackets or guides, allowing for adjustable lengths. Because extension ladders are not self-supporting, they require a stable structure that can withstand the intended load.

Proper Extension Ladder Setup

Setting the ladder at the correct angle is one of the most critical steps to a safe setup. Start by leaning the ladder at a 4:1 ratio. This means that the base needs to be one foot away for every four feet of height between the base and where the ladder contacts the structure you're leaning against. Too steep, and it could tip over backward. If there is too much angle, it could bend, or the bottom could slide out.

Extension Ladder Duty Ratings

Even though they may all look the same, each ladder has a different load limit. WAC 296-876-099 defines a ladder's maximum intended load as "the total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a ladder or ladder component at any one time. Sometimes referred to as working load." Therefore, you want to ensure that the ladder you use is designed to carry your weight and the weight of the equipment being carried up and down the ladder. Otherwise, the ladder may become unstable and cause injury.

Inspecting the Extension Ladder

Workers should conduct inspections of step ladders by checking the following items:

Make sure labels are readable and haven't been painted over or damaged.

Ladders should be free of damage, lack of structural integrity, missing components, or loose parts.

Damaged or worn ladders should be labeled, taken out of service, and destroyed.

The rungs must be tight and secure to the side rails.

All hardware and fittings need to be correctly and securely attached.

Movable parts must be tested to see that they operate without binding or too much free play.

Ladders must be free of oil, grease, or slippery materials.

A ladder that has been exposed to fire or strong chemicals should be discarded.

The ladder base must be placed on a secure and level footing at the 4:1 rule. When necessary, ladder levelers shall be used to achieve equal rail support on uneven surfaces.

The ladder base must have anti-slip safety shoes/feet.

Non-compatible sections of extension ladders shall not be spliced together to make a longer ladder.

Tips for Safe Use of Extension Ladders

Never disassemble the extension ladder to make two smaller ladders unless designed for that purpose, the

manufacturer permits it, and the appropriate hardware/fittings are available and used.

Follow all requirements of the labels/markings found on the ladder.

Inspect the ladder before use. Ensure that a ladder is not moved, shifted, or adjusted while anyone is on it.

Only use the ladder for its intended and designed purpose.

Check the load rating that is marked on the stepladder. The rating should be sufficient for the worker's weight and the weight of the tools used.

Check the ladder for damage, including cracks, lost or corroded rivets, defective braces, or parts (including the slip-resistant feet) in poor condition.

Clean the ladder so it is free of grease, oil, or other slippery substances.

Ensure the extension ladder extends at least 3 feet above the upper landing surface.

Check step ladder stability. Ensure all ladder feet are on a firm, level, and non-slippery surface and cannot be accidentally displaced. Secure the ladder as necessary.

Keep your body centered between the side rails. The ladder can become unstable if the body or equipment you are holding moves beyond the side rails.

Work at an appropriate height for the ladder.

Maintain three points of contact on the ladder when ascending or descending. This means consistently placing two hands and a foot or two feet and one hand on the ladder.

Keep both feet on the ladder. Do not stand simultaneously on a ladder and another object.

Use ladders with nonconductive side rails if the ladder could contact uninsulated, energized electric lines or equipment.

Ensure that all workers have been trained and documented in the safe use of ladders and can recognize ladder hazards and the procedures to minimize these hazards.

Ensure ladders are inspected, maintained, stored, and transported correctly.