

STAIRWAY & LADDER PROGRAM

INTRODUCTION

Working on and around stairways and ladders is hazardous. Stairways and ladders are major sources of injuries and fatalities among construction workers for example, and many of the injuries are serious enough to require time off the job. OSHA rules apply to all stairways and ladders used in construction, alteration, repair, painting, decorating and demolition of worksites covered by OSHA's construction safety and health standards. The purpose of the Winger Companies, herein referred to as Winger, Stairway and Ladder Program is to instruct our employees of the proper use of stairways and ladders on the jobsite.

HAZARDS

Falls from portable ladders (step, straight, combination and extension) are one of the leading causes of occupational fatalities and injuries. A fall can be the result when a ladder fails due to overloading or damage. Employees can fall if they slip or lose their balance while climbing on the ladder. Employees also risk a fall if they overreach while working on a ladder.

Weather can be a factor when ladders are used outside. Rain, ice and mud can make a ladder very slick. Oil or grease on a ladder can also contribute to a fall. Ladders that are not set up securely can shift, causing the person on the ladder to fall. Ladders that are not protected from traffic can be accidentally hit at the base to cause a fall.

Another hazard results when ladders come into contact with electricity. Metal ladders are conductive and are not to be used by Winger employees. Winger only uses fiberglass portable ladders.

Objects that fall from ladders are a hazard to anyone who is working below the ladder. Employees who are working on ladders must keep tools and other items secure to protect the people below them. The area around the top of the ladder should be kept clear to help keep objects from being dropped.

Falls on stairways result when employees slip or trip. Clutter, slippery surfaces, damage, poor lighting, and unsafe work practices can contribute to stairway fall hazards.

GENERAL REQUIREMENTS

These rules specify when employers must provide stairways and ladders. In general, the standards require the following:

- When there is a break in elevation of 19 inches (48 cm) or more and no ramp, runway, embankment or personnel hoist is available, employers must provide a stairway or ladder at all worker points of access.
- When there is only one point of access between levels, employers must keep it clear of obstacles to permit free passage by workers.

- If free passage becomes restricted, employers must provide a second point of access and ensure that workers use it.
- When there are more than two points of access between levels, employers must ensure that at least one point of access remains clear.

In addition, employers must install all stairway and ladder fall protection systems required by these rules and ensure that their worksite meets all requirements of the stairway and ladder rules before employees use stairways or ladders. See 29 CFR 1926.1050-1060 for the details of the standard.

Note: The standard does not apply to ladders specifically manufactured for scaffold access and egress, but does apply to job-made and manufactured portable ladders intended for general purpose use. Rules for ladders used on or with scaffolds are addressed in 29 CFR 1926.451 Subpart L.

GENERAL SAFE WORK PRACTICES

ALL LADDERS

The following rules apply to all ladders:

- Read and follow all labels/markings on the ladder.
- Always inspect the ladder prior to using it. If the ladder is damaged, it must be removed from service and tagged until repaired or discarded.
- Do not exceed or load ladders beyond their maximum intended load, nor beyond their manufacturer's rated capacity. Be aware of the ladder's load rating and of the weight it is supporting, including the weight of any tools or equipment. nor beyond the manufacturer's rated capacity.
- Portable ladders shall be capable of supporting at least four times the maximum intended load. Take into consideration your weight and the weight of your tools and materials.
- Ladders shall be used only for the purpose for which they were designed.
- Ladders shall be maintained free of oil, grease and other slipping hazards. Ladders must be free of any slippery material on the rungs, steps or feet.
- Ladders must be kept in a safe condition. Store in designated areas on racks or hooks. Scaffolds must be secured so they will not be knocked over.
- Choose the correct ladder. Each ladder must be long enough to afford access to the work area without having to stand on the top two steps on an ordinary stepladder, or the top three rungs of a straight ladder.
- Employees shall not work from either the top three rungs of a straight ladder or from the top two steps of a step ladder.
- Do not sit on top of a ladder.
- Use a ladder only on a firm, level and substantial base surface, unless it has been secured (top or bottom) to prevent accidental displacement.
- Ladders must have non-skid feet or be braced to prevent slippage.
- Always keep the area around the top and bottom of the ladder clear.
- For elevated work, ladders should be chosen only when aerial lifts and scaffolds are not practical.

- Do not use ladders on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental movement. Do not use slip resistant feet as a substitute for exercising care when placing, lashing or holding a ladder upon slippery surfaces.
- Set up the ladder on a firm, solid surface. Do not place a ladder on boxes, barrels or other unstable bases to obtain additional height.
- Short ladders must not be spliced together to form a long ladder.
- Only use ladders and appropriate accessories (ladder levelers, jacks or hooks) for their designed purposes.
- Pay attention to the Ladder Load Rating. Type 1A is an Extra Heavy-Duty ladder made for construction use. It's load capacity is 300 pounds. Type 1AA is a Special or Super Heavy-Duty ladder made for heavy duty industrial and construction use with a 375-pound load capacity.
- Do not set a ladder up on a scaffold to gain extra height. Exception: a ladder can be set up on a scaffold is if all hazards are identified, permission has been granted from the scaffold builder, 100% tie-off is achieved, and the ladder is properly secured.
- Ladders must be secured by tying off, i.e. nearby structural steel, piping, etc. If there is not a place to tie-off the ladder, such as an MCC room or office area, someone else must hold the ladder.
- Do not use the top step/rung of a ladder as a step/rung unless it was designed for that purpose. Each ladder must be long enough to afford access to the work area without having to stand on the top two steps of a stepladder, or the top three rungs of a straight ladder.
- Avoid electrical hazards! – Look for overhead power lines before handling a ladder. Use ladders equipped with nonconductive side rails if the worker or the ladder could contact exposed energized electrical equipment. They also must be positioned at the designated safe distance away from the exposed energized equipment. Fiberglass ladders are the preferred choice of ladders on job sites. Winger employees are not to use metal or wooden portable ladders on the job site.
- Keep areas clear around the top and bottom of ladders.
- Do not move or shift a ladder while a person, tools or equipment is on the ladder.
- Only one person is allowed on a ladder at a time, unless the ladder is specifically designed for multiple occupancy, such as a twin step ladder.
- Ladders used for access to an upper landing surface shall have side rails that extend at least 3 feet above the landing surface.



- Ladders, ramps or other safe means of access or egress for any excavation deeper than 4 feet is required. Whatever safe means of egress is used, it will be located at intervals with no more than 25 feet of lateral travel distance from employees.
- Never use a ladder as a brace, skid, lever, guy or gin pole, gangway, platform, scaffold, plan, material hoist, or for any other use for which it was not intended.
- When ascending or descending a ladder, the user shall face the ladder and shall use at least one hand to grasp the ladder. The user shall not carry any object or load that could cause him/her to lose balance and fall.
- Always maintain a 3-point (two hands and a foot, or two feet and a hand while facing the ladder) contact on the ladder when ascending and descending. Keep your body near the middle of the step and always face the ladder while climbing.
- You must be tied-off if working 4 feet or above and when working elevated 1 f within 6 feet of a handrail.
- Hoist tools or other materials up after you've reached the top of the ladder. Wear a tool belt to help you manage tools while you're working on a ladder. Do not carry objects or loads that could cause loss of balance and falling.
- All tools and materials shall be hauled up in a tool bucket or similar container or placed in tool belts rather than be carried up by hand.
- Work within the siderails. If your belt buckle goes past the side rail, you are leaning too far. Descend and move the ladder as needed to stay close to your work.
- Ladders used in doorways, passageways, driveways, or other areas where they could be displaced by workplace activities or traffic need to be secured, barricaded or have warning signs posted to keep disturbances away. Where a door could open into a ladder, either block the door open, keep the door locked, or have someone guard the base of the ladder.

In addition, the following general requirements apply to all ladders, including ladders built at the jobsite:

- Double-cleated ladders or two or more ladders must be provided when ladders are the only way to enter or exit a work area where 25 or more employees work or when a ladder serves simultaneous two-way traffic.
- Ladder rungs, cleats and steps must be parallel, level and uniformly spaced when the ladder is in position for use.
- Rungs, cleats and steps of portable and fixed ladders (except as provided below) must not be spaced less than 10 inches (25 cm) apart, nor more than 14 inches (36 cm) apart, along the ladder's side rails.
- Rungs, cleats and steps of step stools must not be less than 8 inches (20 cm) apart, nor more than 12 inches (31 cm) apart, between center lines of the rungs, cleats and steps.
- Rungs, cleats and steps at the base section of extension trestle ladders must not be less than 8 inches (20 cm) nor more than 18 inches (46 cm) apart, between center lines of the rungs, cleats and steps. The rung spacing on the extension section must not be less than 6 inches (15 cm) nor more than 12 inches (31 cm).
- Ladders must not be tied or fastened together to create longer sections unless they are specifically designed for such use.
- When splicing side rails, the resulting side rail must be equivalent in strength to a one-piece side rail made of the same material.

- Two or more separate ladders used to reach an elevated work area must be offset with a platform or landing between the ladders, except when portable ladders are used to gain access to fixed ladders.
- Ladder components must be surfaced to prevent snagging of clothing and injury from punctures or lacerations.
- Wood ladders must not be coated with any opaque covering except for identification or warning labels, which may be placed only on one face of a side rail.
- A competent person must inspect ladders for visible defects periodically and after any incident that could affect their safe use. Ladders SHALL be inspected by a competent person and approved for use before being put into service.

SPECIFIC TYPES OF LADDERS

- Do not use single-rail ladders.
- Use non-self-supporting ladders at an angle where the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder.
- Use wooden ladders built at the jobsite with spliced side rails at an angle where the horizontal distance is one-eighth of the working length of the ladder.
- In addition, the top of a non-self-supporting ladder must be placed with two rails supported equally unless it is equipped with a single support attachment.
- Employees shall watch pinch points while assembling multi-position ladders.

STEPLADDERS

- Never use a stepladder as an extension ladder or straight ladder or in a partially closed position. Stepladders must be spread open and locked.
- Do not use the top or top step of a stepladder as a step unless it is a platform ladder. Get a longer ladder if needed.
- Do not use cross bracing on the rear section of stepladders for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
- Metal spreader or locking devices must be provided on stepladders to hold the front and back sections in an open position when ladders are being used. Open stepladders fully and lock the spreaders to keep the ladder stable.
- Stepladders may not be longer than 20 feet. They must be set level on all four feet.
- When stepladders are used close to an elevated platform, roof or floor opening, and when location requirements so specify, they must be tied off. Employees shall be 100% tied-off while climbing up one step on the stepladder by wearing fall-arresting equipment.



NOTE: All ladders must be held at their base by a second person while the first person climbs the ladder to tie off. This includes the last trip down after untying a ladder at the top. If a ladder cannot be feasibly tied off, then it shall be held at the base by a second person during ladder use.

PORTABLE LADDERS

- The minimum clear distance between side rails for all portable ladders must be 11.5 inches (29 cm).
- The rungs and steps of portable metal ladders must be corrugated, knurled, dimpled, coated with skid-resistant material or treated to minimize slipping.
- Non-self-supporting and self-supporting portable ladders must support at least four times the maximum intended load; extra heavy-duty type 1A metal or plastic ladders must sustain 3.3 times the maximum intended load. To determine whether a self-supporting ladder can sustain a certain load, apply the load to the ladder in a downward vertical direction with the ladder placed at a horizontal angle of 75.5 degrees.
- When portable ladders are used for access to an upper landing surface, the side rails must extend at least 3 feet (.9 m) above the upper landing surface. When such an extension is not possible, the ladder must be secured and a grasping device such as a grab rail must be provided to assist workers in mounting and dismounting the ladder. A ladder extension must not deflect under a load that would cause the ladder to slip off its supports.
- Non-self-supporting ladders shall be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder. This is the 4 to 1 rule.
- Non-self-supporting ladders shall be tied off or otherwise secured to prevent accidental displacement.

EXTENSION LADDERS

- Extension ladders may not be longer than 60 feet.
- On extension ladders the sections must overlap at least 3 feet for ladders that are up to and including 36 feet long. The overlap must be 4 feet for ladders over 36 feet and up to and including 48 feet.
- Position extension ladders at an angle where the horizontal distance from the top support to the foot of the ladder is $\frac{1}{4}$ the working length of the ladder. (i.e. wall is 16 feet tall, place foot of the ladder 4 feet away from the wall.)
- When using a portable ladder for access to an upper landing surface, the side rails must extend at least 3 feet above the upper landing surface.
- After extension section has been raised to desired height, the safety latches must be engaged and the extension rope secured to a rung on the base section of the ladder before use.
- Extension ladder sections are not to be used separately.
- Extension ladders must be tied off to a fixed structure prior to use.

FIXED LADDERS

If the total length of the climb on a fixed ladder equals or exceeds 24 feet (7.3 m), the ladder must be equipped with ladder safety devices; or self-retracting lifelines and rest platforms at intervals not to exceed 150 feet (45.7 m); or a cage or well and multiple ladder sections with each ladder section not to exceed 50 feet (15.2 m) in length. These ladder sections must be offset from adjacent sections and landing platforms must be provided at maximum intervals of 50 feet (15.2 m).

In addition, fixed ladders must meet the following requirements:

- Fixed stairways shall conform to the requirements of 29CFR 1910.24, "Fixed Industrial Stairs".
- Fixed ladders must be able to support at least two loads of 250 pounds (114 kg) each, concentrated between any two consecutive attachments. Fixed ladders also must support added anticipated loads caused by ice buildup, winds, rigging and impact loads resulting from using ladder safety devices.
- Individual rung/step ladders must extend at least 42 inches (1.1 m) above an access level or landing platform either by the continuation of the rung spacings as horizontal grab bars or by providing vertical grab bars that must have the same lateral spacing as the vertical legs of the ladder rails.
- Each step or rung of a fixed ladder must be able to support a load of at least 250 pounds (114 kg) applied in the middle of the step or rung.
- Minimum clear distance between the sides of individual rung/step ladders and between the side rails of other fixed ladders must be 16 inches (41 cm).
- Rungs of individual rung/step ladders must be shaped to prevent slipping off the end of the rungs.
- Rungs and steps of fixed metal ladders manufactured after March 15, 1991, must be corrugated, knurled, dimpled, coated with skid-resistant material or treated to minimize slipping.
- Minimum perpendicular clearance between fixed ladder rungs, cleats, and steps and any obstruction behind the ladder must be 7 inches (18 cm), except that the clearance for an elevator pit ladder must be 4.5 inches (11 cm).
- Minimum perpendicular clearance between the centerline of fixed ladder rungs, cleats and steps, and any obstruction on the climbing side of the ladder must be 30 inches (76 cm). If obstructions are unavoidable, clearance may be reduced to 24 inches (61 cm), provided a deflection device is installed to guide workers around the obstruction.
- Step-across distance between the center of the steps or rungs of fixed ladders and the nearest edge of a landing area must be no less than 7 inches (18 cm) and no more than 12 inches (30 cm). A landing platform must be provided if the step-across distance exceeds 12 inches (30 cm).
- Fixed ladders without cages or wells must have at least a 15-inch (38 cm) clearance width to the nearest permanent object on each side of the centerline of the ladder.
- Fixed ladders must be provided with cages, wells, ladder safety devices or self-retracting lifelines where the length of climb is less than 24 feet (7.3 m) but the top of the ladder is at a distance greater than 24 feet (7.3 m) above lower levels.
- Side rails of through or side-step fixed ladders must extend 42 inches (1.1 m) above the top level or landing platform served by the ladder. Parapet ladders must have an access level at the roof if the parapet is cut to permit passage through it. If the parapet is continuous, the access level is the top of the parapet.
- Steps or rungs for through-fixed-ladder extensions must be omitted from the extension; and the extension of side rails must be flared to provide between 24 inches (61 cm) and 30 inches (76 cm) clearance between side rails.
- When safety devices are provided, the maximum clearance distance between side rail extensions must not exceed 36 inches (91 cm).
- Fixed ladders must be used at a pitch no greater than 90 degrees from the horizontal, measured from the back side of the ladder.

CAGES FOR FIXED LADDERS

The requirements for cages for fixed ladders are as follows:

- Horizontal bands must be fastened to the side rails of rail ladders or directly to the structure, building or equipment for individual-rung ladders.
- Vertical bars must be on the inside of the horizontal bands and must be fastened to them.
- Cages must not extend less than 27 inches (68 cm), or more than 30 inches (76 cm) from the centerline of the step or rung and must not be less than 27 inches (68 cm) wide.
- Insides of cages must be clear of projections.
- Horizontal bands must be spaced at intervals not more than 4 feet (1.2 m) apart measured from centerline to centerline.
- Vertical bars must be spaced at intervals not more than 9.5 inches (24 cm), measured centerline to centerline.
- Bottoms of cages must be between 7 feet (2.1 m) and 8 feet (2.4 m) above the point of access to the bottom of the ladder. The bottom of the cage must be flared not less than 4 inches (10 cm) between the bottom horizontal band and the next higher band.
- Tops of cages must be a minimum of 42 inches (1.1 m) above the top of the platform or the point of access at the top of the ladder. There must be a way to access the platform or other point of access.

WELLS FOR FIXED LADDERS

The requirements for wells for fixed ladders are as follows:

- Wells must completely encircle the ladder.
- Wells must be free of projections.
- Inside faces of wells on the climbing side of the ladder must extend between 27 inches (68 cm) and 30 inches (76 cm) from the centerline of the step or rung.
- Inside widths of wells must be at least 30 inches (76 cm).
- Bottoms of wells above the point of access to the bottom of the ladder must be between 7 feet (2.1 m) and 8 feet (2.4 m).

LADDER SAFETY DEVICES AND RELATED SUPPORT SYSTEMS FOR FIXED LADDERS

The connection between the carrier or lifeline and the point of attachment to the body belt or harness must not exceed 9 inches (23 cm) in length. In addition, ladder safety devices and related support systems on fixed ladders must conform to the following:

- All safety devices must be able to withstand, without failure, a drop test consisting of a
- 500-pound weight (226 kg) dropping 18 inches (41 cm).
- All safety devices must permit the worker to ascend or descend without continually having to hold, push or pull any part of the device, leaving both hands free for climbing.
- All safety devices must be activated within 2 feet (.61 m) after a fall occurs and limit the descending velocity of an employee to 7 feet/second (2.1 m/sec) or less.

REQUIREMENTS FOR MOUNTING LADDER SAFETY DEVICES FOR FIXED LADDERS

The requirements for mounting ladder safety devices for fixed ladders are as follows:

- Mountings for rigid carriers must be attached at each end of the carrier, with intermediate mountings spaced along the entire length of the carrier, to provide the necessary strength to stop workers' falls.
- Mountings for flexible carriers must be attached at each end of the carrier. Cable guides for flexible carriers must be installed with spacing between 25 feet (7.6 m) and 40 feet (12.2 m) along the entire length of the carrier, to prevent wind damage to the system.
- Design and installation of mountings and cable guides must not reduce the strength of the ladder.
- Side rails and steps or rungs for side-step fixed ladders must be continuous in extension.

INSPECTIONS

Ladders needing repairs are subject to the following rules:

- Ladders shall be inspected by a competent person and approved for use before being put into service.
- Ladders will be inspected monthly by a competent person and records kept for 3 years.
- Each user shall inspect ladders visually before using.
- Portable ladders with structural defects—such as broken or missing rungs, cleats or steps, broken or split rails, corroded components or other faulty or defective components—must immediately be marked defective or tagged with "Do Not Use" or similar language and withdrawn from service until repaired.
- Fixed ladders with structural defects—such as broken or missing rungs, cleats or steps, broken or split rails or corroded components— must be withdrawn from service until repaired
- Defective fixed ladders are considered withdrawn from use when they are immediately tagged with "Do Not Use" or similar language, or marked in a manner that identifies them as defective, or blocked—such as with a plywood attachment that spans several rungs. Report the defects to your foreman or tool crib personnel.
- Ladder repairs must restore the ladder to a condition meeting its original design criteria before the ladder is returned to use.

Ladder Inspection Form

Provided by Werner Co.

Company Name: _____
Please Print

Ladder Reference Number: _____ Dept. _____

Inspector _____ Date: _____

Stepladder Size _____ ft

Fiberglass Aluminum Wood

Steps:	Loose, Cracked, Bent or Missing	Yes	No
Rails:	Cracked, Bent, Split or Frayed	<input type="checkbox"/>	<input type="checkbox"/>
	Rail Shields	<input type="checkbox"/>	<input type="checkbox"/>
Labels:	Missing or Not Readable	<input type="checkbox"/>	<input type="checkbox"/>
Pail Shelf:	Loose, Bent, Missing or Broken	<input type="checkbox"/>	<input type="checkbox"/>
Top:	Cracked, Loose or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Spreader:	Loose, Bent or Broken	<input type="checkbox"/>	<input type="checkbox"/>
General:	Rust, Corrosion or Loose	<input type="checkbox"/>	<input type="checkbox"/>
Other:	Bracing, Shoes, Rivets	<input type="checkbox"/>	<input type="checkbox"/>

Circle Areas of Damage

Actions: Ladder tagged as damaged & removed from use
 Ladder is in good condition

Extension Ladder Size _____ ft

Fiberglass Aluminum

Rungs:	Loose, Cracked, Bent or Missing	Yes	No
Rails:	Cracked, Bent, Split or Frayed	<input type="checkbox"/>	<input type="checkbox"/>
Labels:	Missing or Not Readable	<input type="checkbox"/>	<input type="checkbox"/>
Rung Locks:	Loose, Bent, Missing or Broken	<input type="checkbox"/>	<input type="checkbox"/>
Hardware:	Missing, Loose or Broken	<input type="checkbox"/>	<input type="checkbox"/>
Shoes:	Worn, Broken or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Rope/Pulley:	Loose, Bent or Broken	<input type="checkbox"/>	<input type="checkbox"/>
Other:	Bracing Rivets	<input type="checkbox"/>	<input type="checkbox"/>
General:	Rust, Corrosion or Loose	<input type="checkbox"/>	<input type="checkbox"/>

Circle Areas of Damage

Actions: Ladder tagged as damaged & removed from use
 Ladder is in good condition

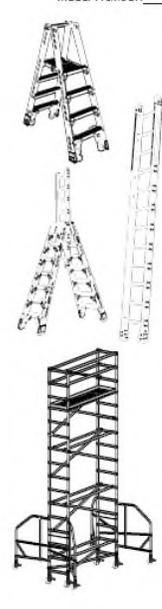
Ladder Inspection Form

Provided by Werner Co.

Specialty Ladder

Fiberglass Aluminum Wood

Model Number: _____



Mark all that apply

		Yes	No
Steps/Rungs:	Loose, Cracked Bent or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Rails:	Cracked, Bent, Split or Frayed	<input type="checkbox"/>	<input type="checkbox"/>
Labels:	Missing or Not Readable	<input type="checkbox"/>	<input type="checkbox"/>
Hardware:	Missing, Loose or Broken	<input type="checkbox"/>	<input type="checkbox"/>
Fasteners:	Rust, Corrosion, Loose or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Top:	Cracked, Loose, or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Spreader:	Loose, Bent or Broken	<input type="checkbox"/>	<input type="checkbox"/>
Outriggers:	Missing, Rust, Corrosion or Loose for scaffolding	<input type="checkbox"/>	<input type="checkbox"/>
General:	Rust, Corrosion or Loose	<input type="checkbox"/>	<input type="checkbox"/>
Hinges:	Loose, Bent or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Locks:	Loose, Bent, Broken or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Bracing Front/Rear:	Loose, Bent, Broken or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Rivets:	Rust, Corrosion, Loose, Missing	<input type="checkbox"/>	<input type="checkbox"/>
Shoes:	Worn, Broken or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Platform:	Loose, Bent, Broken or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Rail Shield:	Missing or Loose	<input type="checkbox"/>	<input type="checkbox"/>
Shoulder Bolt:	Rust, Corrosion or Loose	<input type="checkbox"/>	<input type="checkbox"/>
Casters:	Rust, Corrosion or Loose for scaffolding	<input type="checkbox"/>	<input type="checkbox"/>

Circle Areas of Damage

Actions: Ladder tagged as damaged & removed from use
 Ladder is in good condition

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RULES FOR STAIRWAYS

The rules covering stairways and their components generally depend on how and when stairs are used. Specifically, there are rules for stairs used during construction and stairs used temporarily during construction, as well as rules governing stair rails and handrails.

- Always walk up and down stairs using the handrails provided. Running or jumping from landing to landing can cause you to lose your footing and fall.
- Make sure you can see over any materials that you are carrying on a stairway. If you can't see the stairs, you are more likely to fall.
- Report unsafe conditions promptly, including damaged stair treads, railings, or handrails.

STAIRWAYS USED DURING CONSTRUCTION

The following requirements apply to all *stairways used during construction*:

- Stairways that will not be a permanent part of the building under construction must have landings at least 30 inches deep and 22 inches wide (76 x 56 cm) at every 12 feet (3.7 m) or less of vertical rise.
- Stairways must be installed at least 30 degrees—and no more than 50 degrees—from the horizontal.

- Riser height and tread depth shall be uniform within each flight of stairs. Variations in riser height or stair tread depth must not exceed 1/4 inch in any stairway system, including any foundation structure used as one or more treads of the stairs.
- Doors and gates opening directly onto a stairway must have a platform that extends at least 20 inches (51 cm) beyond the swing of the door or gate.
- Metal pan landings and metal pan treads must be secured in place before filling.
- Stairway parts must be free of dangerous projections such as protruding nails.
- Slippery conditions on stairways shall be eliminated before the stairways are used to reach other levels. Slippery conditions on stairways must be corrected.
- Workers must not use spiral stairways that will not be a permanent part of the structure.

TEMPORARY STAIRS

The following requirements apply to *stairways used temporarily during construction*. Except during construction of the stairway:

- Do not use stairways with metal pan landings and treads if the treads and/or landings have not been filled in with concrete or other materials unless the pans of the stairs and/or landings are temporarily filled in with wood or other materials. All treads and landings must be replaced when worn below the top edge of the pan.
- Do not use skeleton metal frame structures and steps (where treads and/or landings will be installed later) unless the stairs are fitted with secured temporary treads and landings.

Note: Temporary treads must be made of wood or other solid material and installed the full width and depth of the stair.

STAIR RAILS

The following general requirements apply to all stair rails:

- Stairways with four or more risers or rising more than 30 inches (76 cm) in height— whichever is less—must be installed along each unprotected side or edge. When the top edge of a stair rail system also serves as a handrail, the height of the top edge must be no more than 37 inches (94 cm) nor less than 36 inches (91.5 cm) from the upper surface of the stair rail to the surface of the tread.
- Stair rails installed after March 15, 1991, must be not less than 36 inches (91.5 cm) in height.
- Top edges of stair rail systems used as handrails must not be more than 37 inches (94 cm) high nor less than 36 inches (91.5 cm) from the upper surface of the stair rail system to the surface of the tread. (If installed before March 15, 1991, not less than 30 inches [76 cm]).
- Stair rail systems and handrails must be surfaced to prevent injuries such as punctures or lacerations and to keep clothing from snagging.
Ends of stair rail systems and handrails must be built to prevent dangerous projections, such as rails protruding beyond the end posts of the system.
- In addition, unprotected sides and edges of stairway landings must have standard 42-inch (1.1 m) guardrail systems.

- Intermediate vertical members, such as balusters used as guardrails, must not be more than 19 inches (48 cm) apart.
- Other intermediate structural members, when used, must be installed so that no openings are more than 19 inches (48 cm) wide.
- Screens or mesh, when used, must extend from the top rail to the stairway step and along the opening between top rail supports.

HANDRAILS

Requirements for handrails are as follows:

- Handrails and top rails of the stair rail systems must be able to withstand, without failure, at least 200 pounds (890 n) of weight applied within 2 inches (5 cm) of the top edge in any downward or outward direction, at any point along the top edge.
- Handrails must not be more than 37 inches (94 cm) high nor less than 30 inches (76 cm) from the upper surface of the handrail to the surface of the tread.
- Handrails must provide an adequate handhold for employees to grasp to prevent falls.
- Temporary handrails must have a minimum clearance of 3 inches (8 cm) between the handrail and walls, stair rail systems and other objects.
- Stairways with four or more risers, or that rise more than 30 inches (76 cm) in height—whichever is less—must have at least one handrail.
- Winding or spiral stairways must have a handrail to prevent use of areas where the tread width is less than 6 inches (15 cm).

MIDRAILS

Midrails, screens, mesh, intermediate vertical members or equivalent intermediate structural members must be provided between the top rail and stairway steps to the stair rail system. When midrails are used, they must be located midway between the top of the stair rail system and the stairway steps.

TRAINING REQUIREMENTS

Employers must train all employees to recognize hazards related to ladders and stairways, and instruct them to minimize these hazards. For example, employers must ensure that each employee is trained by a competent person in the following areas, as applicable:

- Nature of fall hazards in the work area;
- Correct procedures for erecting, maintaining and disassembling the fall protection systems to be used;
- Proper construction, use, placement and care in handling of all stairways and ladders; and
- Maximum intended load-carrying capacities of ladders used.

Note: Employers must retrain each employee as necessary to maintain their understanding and knowledge on the safe use and construction of ladders and stairs.

SOURCE CREDITS

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DOCUMENT CONTROL

Initial Program July 19, 2005
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