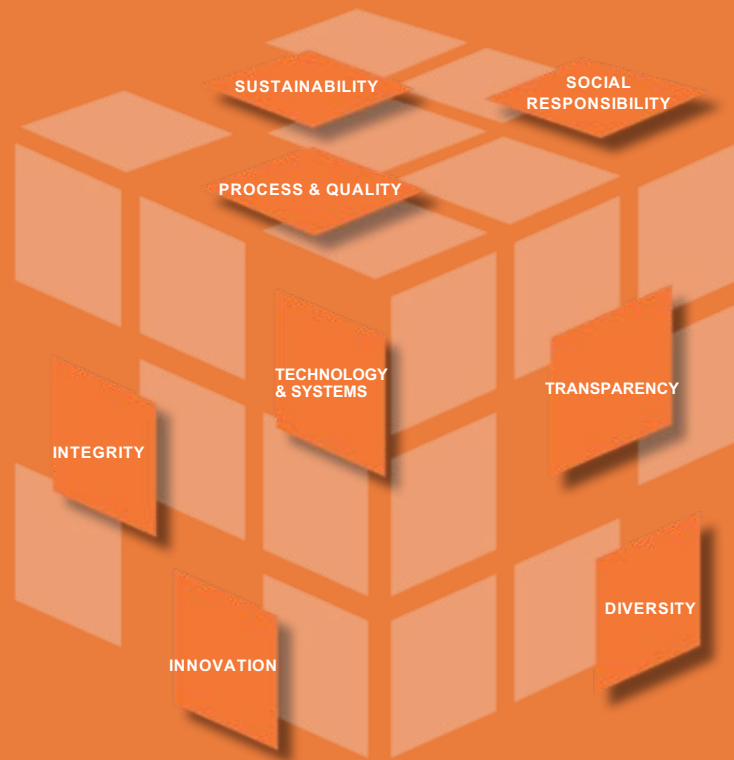


Stairway & Ladder Safety



During this module you will answer Quick Quizzes to help you review and test your understanding; these are not scored.

There is also a short Final Quiz in addition to this module, which will be scored. It is necessary to pass with a score of 80% or better to receive credit for this module. This module takes 15 minutes to complete.



What's wrong with this picture?

Is this good ladder safety, compliant with OSHA standards? Of course not! In this module, you will be able to:

- Recognize the importance of Stairway and Ladder Safety
- Understand Competent Person responsibilities
- Identify and eliminate Stairway and Ladder hazards
- Understand how to prevent workplace accidents

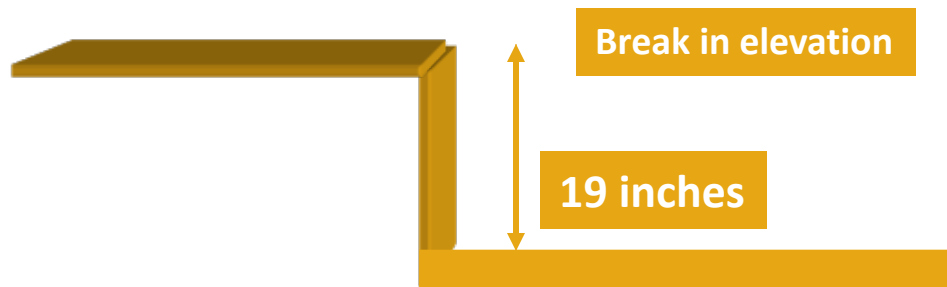


- ▶ Stairways and ladders cause many injuries and fatalities among construction workers
- ▶ About half the injuries caused by slips, trips and falls from ladders and stairways require time off the job



Improper use of the top rung of a step ladder

- ▶ There must be a stairway or ladder at points of access where there is an elevation break of 19 inches or more, unless a ramp, runway, embankment or personnel hoist is provided.
- ▶ At least one point of access must be kept clear for work-related passage from one area or level to another.



True or False?

A stair or ladder is required when there is a break in elevation of **19** inches.

- A. True
- B. False



True or False?

A stair or ladder is required when there is a break in elevation of **19** inches.

- A. True
- B. False

Note: True, unless a ramp, runway, embankment, or personnel hoist is provided.



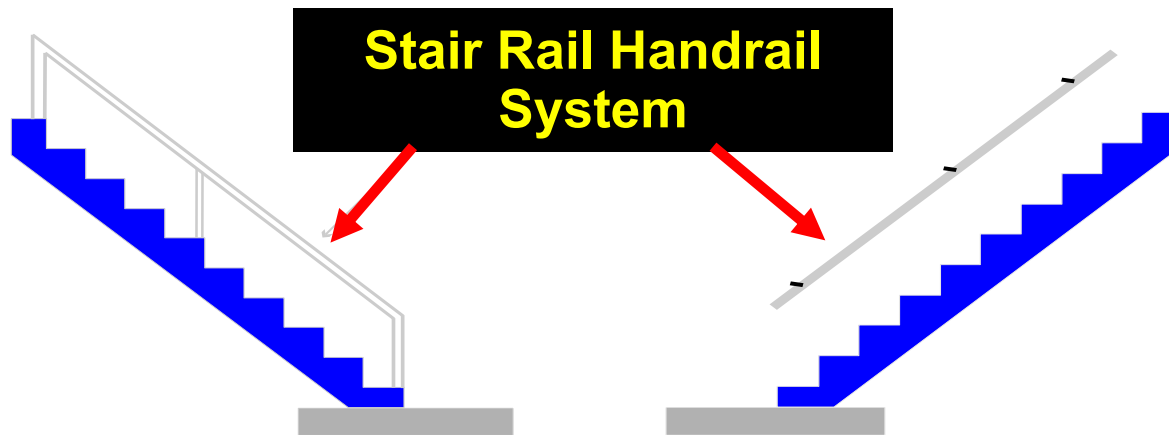
A double-cleated ladder or two or more separate ladders must be provided:

- ▶ when ladders are the only means of access or exit from a working area for 25 or more employees, or
- ▶ when a ladder is to serve simultaneous two-way traffic.

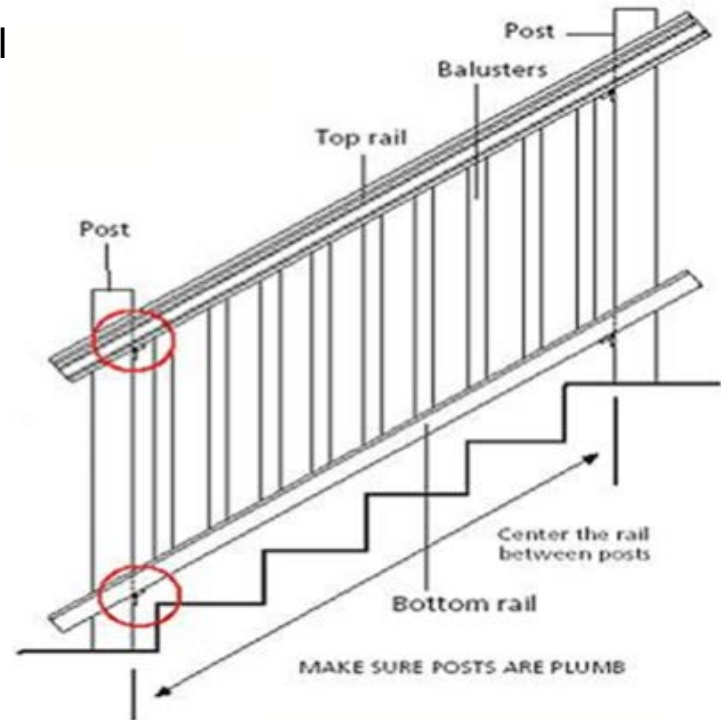


Stair rail system - A vertical barrier erected along the unprotected sides and edges of a stairway to prevent employees from falling to lower levels.

Handrail - A rail used to provide employees with a handhold for support.



- ▶ Stair rails shall be not less than 36 inches.
- ▶ Mid-rails shall be provided between the top rail of the stair rail system and the stairway steps.
- ▶ When intermediate vertical members, such as balusters, are used between posts, they shall be not more than 19 inches apart.



Handrails and the top rails of the stair rail systems must be capable of withstanding, without failure, at least 200 pounds of weight applied within 2 inches of the top edge in any downward or outward direction, at any point along the top edge.



Multiple Choice

Stair rails must be at least ____ inches high.

- A. 41
- B. 33
- C. 36



Multiple Choice

Stair rails must be at least ____ inches high.

- A. 41
- B. 33
- C. 36**

The guidelines for Stair rail height state 39 inches plus or minus 3 inches, so they can accommodate the average team member on the work site.



Handrails must provide an adequate handhold for employees to grasp to prevent falls.

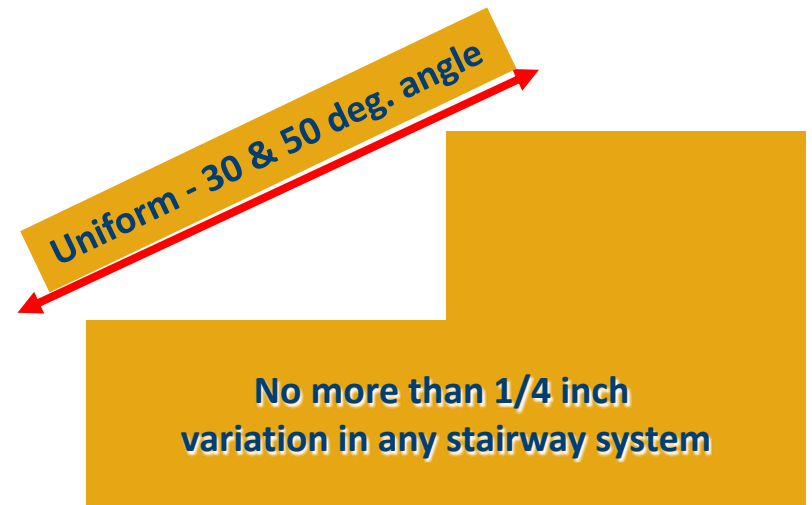
- Temporary handrails must have a minimum clearance of 3” between the handrail and walls, stair rail system and other objects.
- Stairways with four or more risers, or higher than 30 inches, must be equipped with at least one handrail.



The stairway to this platform has more than 4 risers and is not guarded. The platform requires guarding.

Install angle for stairs must be between 30 and 50 degrees.

Must have uniform riser height and tread depth, with less than a 1/4-inch variation.



A temporary stairway is one where permanent treads and/or landings are to be filled in at a later date. The pans are just “concrete forms” that are filled with concrete after the stairs have been set in place.

- Only use pan stairs if filled with filler material at least to the top edge of each pan.
- Replace treads and landings when worn below top edge of the pan.



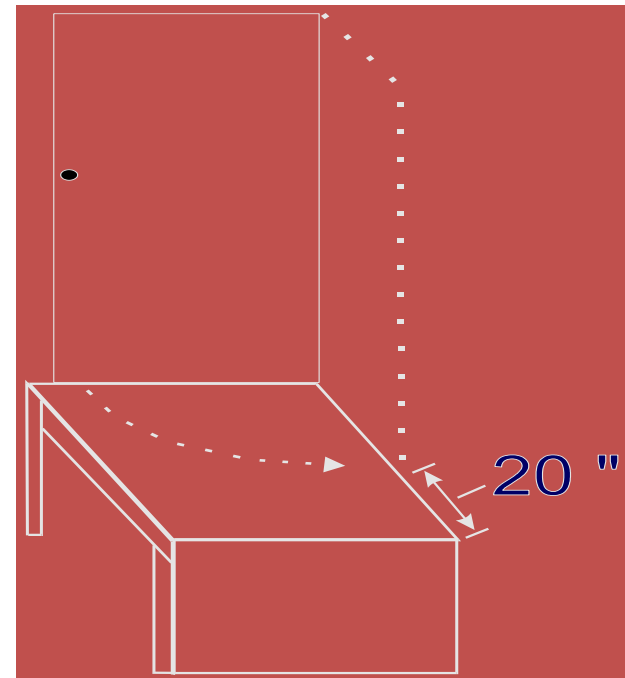
Stairways landings must be at least 30 inches deep and 22 inches wide at every 12 feet or less of vertical rise.

Unprotected sides of landings must have standard 42 inch guardrail systems with minimum 3½ inch toe boards.



Where doors or gates open directly on a stairway, provide a platform that extends at least 20 inches beyond the swing of the door.

Remember that a guardrail system may also be needed on a platform with a swinging door to protect from potential falls of 6 feet or more.



It is important to address potentially dangerous conditions such as slippery stairs, rails or landings due to weather conditions or the composition of the stair material (e.g. smooth, metal surfaces).

Stairway parts must be free of projections which may cause injuries or snag clothing.



Platforms must have 20 inches clearance from a door.

- A. True
- B. False



Platforms must have 20 inches clearance from a door.

- A. True**
- B. False**

Where doors or gates open directly on a stairway, you must provide a platform that extends at least 20 inches beyond the swing of the door.





- Ladders must be kept in a safe condition.
- Keep the area around the top and bottom of a ladder clear.
- Ensure rungs, cleats, and steps are level and uniformly spaced.
- Ensure rungs are spaced 10 to 14 inches apart.
- Keep ladders free from slipping hazards.



Use ladders only for their designed purpose.

DO NOT:

- tie ladders together to make longer sections, unless designed for such use
- use single rail ladders
- load ladders beyond the maximum load for which they were built, nor beyond the manufacturer's rated capacity



Tying ladders together can lead to accidents.

- Secure ladders that are placed in high traffic areas such as passage-ways, driveways, and doorways to prevent accidental movement due to workplace activity.
- Use barricades, if necessary, to keep traffic or activity away from the ladder.
- Only use ladders on stable and level surfaces, unless secured.
- Do not use ladders on slippery surfaces unless secured or provided with slip-resistant feet.



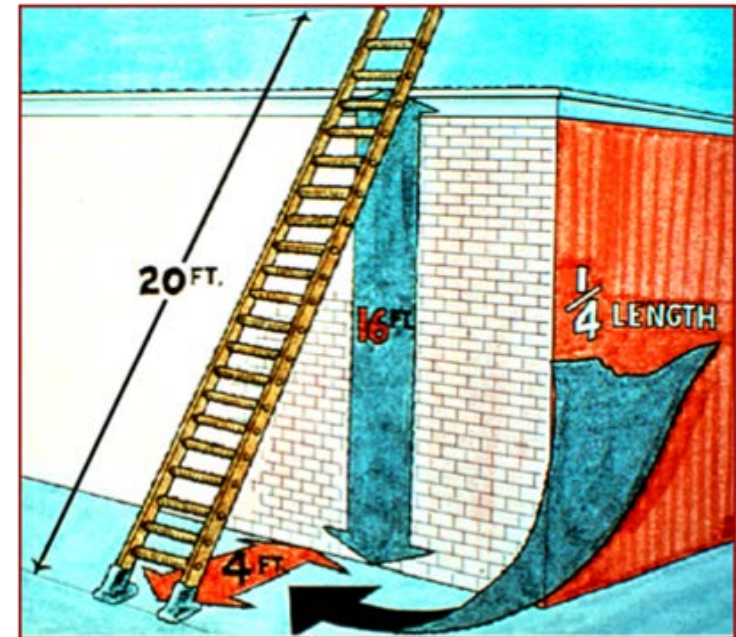
This ladder is not on a stable surface

- Inspect before use for cracks, dents, and missing rungs.
- Ladder rungs, cleats, and steps must be parallel, level and uniformly spaced.
- Design or treat rungs to minimize slipping.
- Side rails must be at least 11 1/2 inches apart.
- Ladders must support 4 times the maximum load.

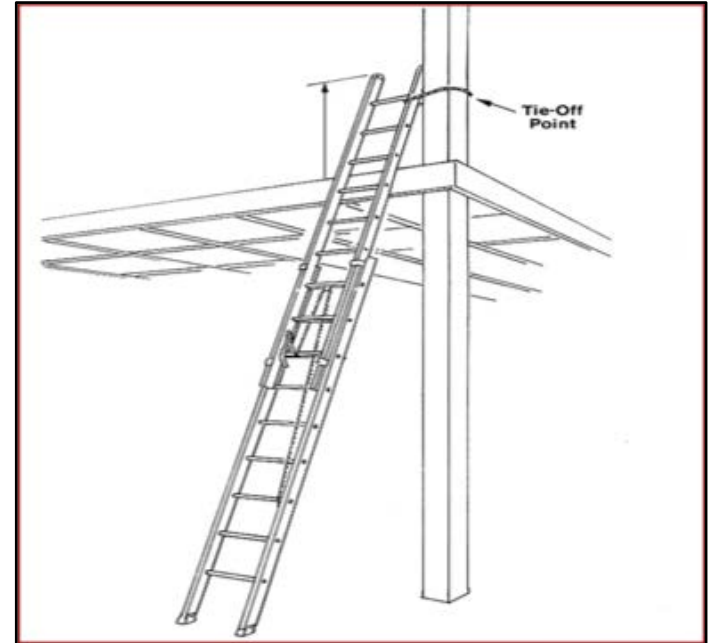


When working with non-self-supporting ladders (which lean against a wall or other support):

- Position 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
- For every 4 feet up, the ladder should be placed 1 foot out 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.
- ▶ 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 support.



Ladders must extend ___ feet above the landing.

- A. 3
- B. 5
- C. 8



Ladders must extend ___ feet above the landing.

- A. 3
- B. 5
- C. 8



Equip a fixed ladder (attached to building or structure) 24 feet or longer with a:

- ▶ ladder safety device
- ▶ self-retracting lifelines with rest platforms every 150 feet or less
- ▶ cage or well, and multiple ladder sections, each section not exceeding 50 feet



Fixed ladders over ____ feet require fall protection.

- A. 12
- B. 24
- C. 18



Fixed ladders over ____ feet require fall protection.

- A. 12
- B. 24**
- C. 18



If using ladders where the employee or the ladder could contact exposed energized electrical equipment, they must have nonconductive side rails such as wood or fiberglass.

Stay **10 feet away** from exposed electrical equipment.



This is an unsafe condition

To ensure your safety, do not use the top or top step of a stepladder as a step.



Don't use cross bracing on the rear of a stepladder for climbing - unless the ladder is designed for that use.

**Use the back rungs for climbing,
not the cross bracing.**



- ▶ A competent person must inspect ladders for visible defects, like broken or missing rungs.
- ▶ If a defective ladder is found, immediately mark it defective or tag it "Do Not Use".
- ▶ Withdraw defective ladders from service until repaired.



- ▶ Face the ladder when going up or down.
- ▶ Use at least one hand to grab the ladder when going up or down.
- ▶ Do not carry any object or load that could cause you to lose balance.



- ▶ A competent person must train each employee in the following areas, as applicable:
- ▶ The nature of fall hazards in the work area
- ▶ The correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used
- ▶ The proper construction, use, placement, and care in handling of all stairways and ladders
- ▶ The maximum intended load-carrying capacities of ladders

Metal ladders must be 10 feet from energized power lines.

- A. True
- B. False



Metal ladders must be 10 feet from energized power lines.

- A. True
- B. False



- ▶ A competent person must inspect ladders.
- ▶ Use the correct ladder for the job.
- ▶ Use the correct angle, supports, treads, cross braces and rails.
- ▶ Don't overload.
- ▶ Your employer must train you in proper use of a ladder.



Congratulations! You've completed the
Stairways and Ladders module.
Click [here](#) and take the final quiz.