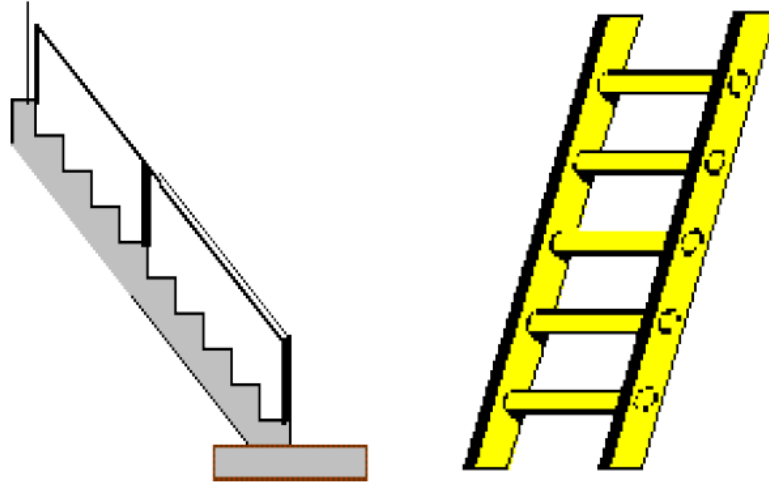


Guidelines – Safe use of Ladders



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1.0 Purpose:

Ladders are a major source of injuries and fatalities among construction workers. It is a well-known fact that there are many injuries and fatalities per year due to falls from ladders used on construction sites. Nearly half of these injuries are serious enough and Trakhees would like to highlight certain safety aspects, through these guidelines for the benefit of the clients/contractors and consultants working under Trakhees jurisdiction.

2.0 Scope: -

This guideline is applicable to all clients / consultants / contractors working under Trakhees' jurisdiction.

3.0 Definition:

The Ladder can be defines as a means used on construction sites for safe access and egress of construction workers and transportation of light weight material.

4.0 General requirements:



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The following general requirements apply to all ladders, including job-made ladders:

- A double-cleated ladder or two or more ladders must be provided when ladders are the only way to enter or exit a work area having 25 or more employees, or when a ladder serves simultaneous two-way traffic.
- Ladder rungs, cleats, and steps must be parallel, levelled, and uniformly spaced when the ladder is in position for use.
- Ladders must not be tied or fastened together to create longer sections unless they are specifically designed for such use.
- A metal spreader or locking device must be provided on each stepladder to hold the front and back sections in an open position when the ladder is being used.
- When splicing side rails, the resulting side rail must be equivalent in strength to a one-piece side rail made of the same material.
- Ladder components must be surfaced to prevent injury from punctures or lacerations, and prevent snagging of clothing.
- Wooden 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.
- The ladder must extend at least 1.1 metre above the landing place, unless another suitable hand hold is provided
- An intermediate landing is to be provided with adequate guard rails when the length of the ladder exceeds 9 metres.
- Do not use homemade ladders.
- Metal ladders must have rubber shoes fixed to its base all the time





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- Rung of the ladder must be flat
- Ensure that the ladder is of adequate strength and sound construction
- The ladder must be set on a firm level footing (not bricks).
- Do not over load step ladders
- Do not use any metal ladder while carrying out electrical works.
- Long ladder shall be carried by two persons.
- Keep the front end of the portable ladder 2 metres above the ground level when carried by single person.
- Risk assessment must be prepared before carrying out any works from ladders or step ladders.
- Ensure that 3 point contact is made all the time while climbing or descending a ladder
- Ensure that the ladder is used by only one person at a time
- The ladder must be set at the correct angle, approximately 75 degrees with the horizontal. (1H:4V)
- All ladders used for access must be securely fixed in place
- Do not try to stretch too far on sides whilst standing on the ladder
- Always ensure extension ladders and step ladders are locked securely to prevent collapse.
- Overlapping of two extension ladders shall be done in accordance with the Manufacturers Manual
- Use an inspection tagging system for ladders.
- Defective ladders must be removed from use.
- Use PPE as per site rules or as per risk assessment.



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- After completion of the works ladders should be returned to the store for maintenance / thorough inspection.
- Ladders with missing rung/s must not be allowed to use.
- Ladders must be maintained free of oil, grease, and other slipping hazards.
- Ladders must not be loaded beyond the maximum intended load for which they were built or beyond their manufacturer's rated capacity.
- Ladders must be used only for the purpose for which they were designed.
- Ladders placed in areas such as passage-ways, doorways, or driveways, or where they can be displaced by workplace activities or traffic must be secured to prevent accidental movement, or a barricade must be used to keep traffic or activities away from the ladder.
- Ladders must not be moved, shifted, or extended while in use.
- Ladders must have nonconductive side rails if they are used where the worker or the ladder could contact exposed energized electrical equipment.
- The top or top step of a stepladder must not be used as a step.
- Cross-bracing on the rear section of stepladders must not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
- Ladders must be inspected by a competent person for visible defects on a periodic basis and after any incident that could affect their safe use.
- Single-rail ladders must not be used.
- When ascending or descending a ladder, the worker must face the ladder.



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- The rungs and steps of portable metal ladders must be corrugated, knurled, dimpled, coated with skid-resistant material, or treated to minimize slipping.
- 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 spacing 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.
- The 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).
- The rungs and steps of fixed metal ladders, must be corrugated, knurled, dimpled, coated with skid-resistant material, or treated to minimize slipping.
- Fixed ladders without cages or wells must have at least a 15-inch (38 cm) clear width to the nearest permanent object on each side of the centreline 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.
- The inside of the cage must be clear of projections.
- The bottom of the cage 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.
- The top of the cage 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. Provisions must be made for access to the platform or other point of access.
- If the total length of a climb on a fixed ladder equals or exceeds 24 feet (7.3 m), the following requirements must be met: fixed ladders must be equipped with either
 - (a) Ladder safety devices;
 - (b) Self-retracting lifelines, and rest platforms at intervals not to exceed 150 feet (45.7 m)



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- (c) A cage or well, and multiple ladder sections, 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).

5.0 Structural defects:

- Portable & fixed 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.
- Defective ladders should be stopped from use and:
 - (a) To be immediately tagged with "Do Not Use" or similar language
 - (b) To be marked in a manner that identifies them as defective
 - (c) To be blocked (such as with a plywood attachment that spans several rungs).
- Ladder repairs must be done in such a way that it restores to its original design criteria, before it is reused.

6.0 Training requirements:

Employers must provide a training program for each employee using ladders. The program must enable each employee to recognize hazards related to ladders and to use proper procedures to minimize these hazards. For example, employers must ensure that each employee is trained by a competent person in the following areas, as applicable:

- The nature of hazards in the use of ladders.
- The proper construction, use, placement, and care in handling of ladders.
- The maximum intended load-carrying capacities of ladders used. In addition, retraining must be provided for each employee, as necessary, so that the employee maintains the understanding and knowledge acquired through compliance with the standard.