

Ladder Safety & Stairway Safety

University Facilities (UF)

Internal Standard; 01.B.04.01

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This document establishes official Standard for ladder safety and is based on OSHA 1926.1050 – Ladders and Stairways

Purpose and Scope

UF has implemented this policy to ensure that no employee is exposed to hazards caused by improper or unsafe use of ladders and/or stairways. UF will provide a training program for each employee using ladders and stairways. The program will enable each employee to recognize hazards related to ladders and stairways and will train each employee in the procedures to be followed to minimize these hazards.

Training

UF will ensure the following training and safe work practices are enforced:

- Each employee has been trained by a competent person 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.
 - The standards contained in §1926.1050 – Ladders and Stairways.
- Retraining will be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through previous training required for OSHA compliance.

Ladder Requirements

UF will ensure the following requirements are adhered to concerning the use of all ladders:

- When portable ladders are used for access to an upper landing surface, the ladder side rails will extend at least 3 feet 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 will be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grab rail, will be provided to assist employees in mounting and dismounting the ladder. In no case will the extension be such that ladder deflection under a load would, by itself, cause the ladder to slip off its support.
- Ladders will be maintained free of oil, grease, and other slipping hazards.
- Ladder rungs, cleats, and steps will be parallel, level, and uniformly spaced when the ladder is in position for use.
- Ladders will not be loaded beyond the maximum intended for which they were built or beyond their manufacturer's rated capacity.
- Ladders will be used only for the purpose for which they were designed.
 - Non-self-supporting ladders will 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 (the distance along the ladder between the foot and the top support).
 - Wood job-made ladders with spliced side rails will be used at an angle such that the horizontal distance is one-eighth the working length of the ladder.
 - Fixed ladders will be used at a pitch no greater than 90 degrees from the horizontal, as measured to the back side of the ladder.
- Ladders will be used only on stable and level surfaces unless secured to prevent accidental displacement.
- Ladders will not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement. Slip-resistant feet will not be used as a substitute for care in placing, lashing, or holding a ladder that is used upon slippery surfaces, including flat metal or concrete surfaces that are constructed so they cannot be prevented from becoming slippery.
- Ladders placed in any location where they can be displaced by workplace activities or traffic, such as in passageways, doorways, or driveways will be secured to prevent accidental displacement, or a barricade will be used to keep the activities or traffic away from the ladder.
- The area around the top and bottom of ladders will be kept clear.
- The top of a non-self-supporting ladder will be placed with the two rails supported equally unless it is equipped with a single support attachment.
- Ladders will not be moved, shifted, or extended while occupied.
- Ladders will have nonconductive side-rails if they are used where the employee or the ladder could contact exposed energized electrical equipment.
- The top or top step of a stepladders will not be used as a step.

- Cross-bracing on the rear section of stepladders will not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
- Ladders will be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect their safe use.
- 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, will either be immediately marked in a manner that readily identifies them as defective, or to be tagged with “DO NOT USE” or similar language, and will be 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, will be withdrawn from service until repaired. The defective ladder will be withdrawn from service in the following manner:
 - Immediately tagged with “DO NOT USE” or similar language.
 - Marked in a method that readily identifies it as defective.
 - Blocked from further use, such as with a plywood attachment that spans several rungs.
- Before damaged or defective ladders may be returned to service, repairs will be made that restore the ladder to its original design specifications.
- Single-rail ladders will not be used.
- When ascending or descending a ladder, the user will face the ladder.
- Each employee will use at least one hand to grasp the ladder when progressing up and/or down the ladder.
- An employee will not carry any object or load that could cause the employee to lose balance and fall.
- All portable ladders used by Facility’s employees must be Type 1A rated for 300 pounds.

Stairway Requirements

UF will ensure the following requirements are applied to all stairways:

- Stairways that will not be a permanent part of the structure on which construction work is being performed will have landings of not less than 30 inches in the direction of travel and extend at least 22 inches in width at every 12 feet or less of vertical rise.
- Stairs will be installed between 30 degrees and 50 degrees from horizontal.
- Riser height and tread depth will be uniform within each flight of stairs, including any foundation structure used as one or more treads of the stairs. Variations in riser height or tread depth will not be over ¼-inch in any stairway system.
- Where doors or gates open directly on a stairway, a platform will be provided, and the swing of the door will not reduce the effective width of the platform to less than 20 inches.

- Metal pan landings and metal pan treads, when used, will be secured in place before filling with concrete or other material.
- All parts of stairways will be free of hazardous projections, such as protruding nails.
- Slippery conditions on stairways will be eliminated before the stairways are used to reach other levels.
- Except during stairway construction, foot traffic is prohibited on stairways with pan stairs where the treads and/or landing are to be filled in with concrete or other material at a later date, unless the stairs are temporarily fitted with wood or other solid material at least to the top edge of each pan. Such temporary treads and landings will be replaced when worn below the level of the top edge of the pan.
- Treads for temporary service will be made of wood or other solid material and will be installed the full width and depth of the stair.
- Stairways having four or more risers or rising more than 30 inches, whichever is less, will be equipped with:
 - At least one handrail.
 - One stair rail system along each unprotected side or edge.
- Winding and spiral stairways will be equipped with a handrail offset sufficiently to prevent walking on those portions of the stairways where the tread width is less than 6 inches.
- The height of stair rails will not be less than 36 inches from the upper surface of the stair rail system to the surface of the tread and will be in line with the face of the riser at the forward edge of the tread.
- Mid rails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members, will be provided between the top rail of the stair rail system and the stairway steps.
 - Mid rails will be located at a height midway between the top edge of the stair rail system and the stairway steps.
 - Screens or mesh will extend from the top rail to the stairway step, and along the entire opening between top rail supports.
 - When intermediate vertical members, such as balusters, are used between posts, they will be not more than 19 inches apart.
 - Other structural members will be installed such that there are no openings in the stair rail system that are more than 19 inches wide.
- Handrails and the top rails of stair rail systems will be capable of withstanding, without failure, a force of at least 200 pounds applied within 2 inches of the top edge, in any downward or outward direction, at any point along the top edge.
- The height of handrails will be not more than 37 inches or less than 30 inches from the upper surface of the handrail to the surface of the tread.
- When the top edge of a stair rail system also serves as a handrail, the height of the top edge will be not more than 37 inches or less than 36 inches.

- Stair rail systems and handrails will be so surfaces as to prevent injury to employees from punctures or lacerations, and to prevent snagging of clothing.
- Handrails will provide an adequate handhold for employees grasping them to avoid falling.
- The ends of stair rail systems and handrails will be constructed so as not to constitute a projection hazard.
- Handrails that will not be a permanent part of the structure being built will have a minimum clearance of 3 inches between the handrail and walls, stair rail systems, and other objects.
- Unprotected sides and edges of stairway landings will be provided with guardrail systems.

For additional information go on-line to:

https://cufacilities.sites.clemson.edu/envsafety/training_Ladder.php