



Walking/Working Surfaces

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1.0 PURPOSE

This standard establishes proper guidelines, requirements, and responsibilities for employees working on walking/working surfaces, elevated work platforms, scaffolding, and ladders (portable and fixed).

2.0 APPLICABILITY AND SCOPE

This program applies to all employees and contractors working at USC that are exposed to unprotected floor openings, open tanks, wells, pits, trenches, shafts or similar excavations, unprotected and/or unguarded openings in walls, open sided floors, platforms, walkways, runways, work performed from beams, columns, fixed industrial ladders, or other structural members, erection of scaffolds, work platforms, planking, or other temporary structures, and working at other elevated heights.

3.0 APPLICABLE REGULATIONS AND STANDARDS

- California: Title 8, General Industry Safety Orders
- Federal: Title 29, Code of Federal Regulations, 29 CFR 1910.21-30, Subpart D: Walking and Working Surfaces

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29 CFR 1910.28: Safety Requirements for Scaffolding
29 CFR 1910.66-70, Subpart F: Powered Platforms, Manlifts, Vehicle-Mounted
Platforms

4.0 **DEFINITIONS**

PPE Personal Protective Equipment

5.0 **RESPONSIBILITIES**

5.1 **Employee Responsibilities**

Qualified employees will abide by the following provisions when working on energized components:

- Wear appropriate PPE such as approved insulating gloves, steel-toed boots for electrical work, and safety glasses; and
- Use insulated tools or handling equipment if there is a possibility of contact with conductors or energized components.

5.2 **Supervisor Responsibilities**

- Qualify employees prior to assignment per applicable regulatory requirements.
- Provide awareness training to all employees on recognizing and reporting electrical hazards.
- Document all training; and

5.3 **Contractor Responsibilities**

Comply with all applicable regulatory requirements governing walking and working surfaces (including roofs), fixed industrial stairs, scaffolding, mobile elevated work platforms, and ladders.

6.0 **PROCEDURE**

6.1 **Walking and Working Surfaces**

- Determine if walking and working surfaces have the strength and integrity to support employees safely. Do not overload floors with materials and/or equipment over the approved load limits. Mark elevated storage and other platforms with the load bearing weight;
- Ensure all aisles and passageways are clearly marked, have adequate space for passage of both moving equipment and employees, have safe clearances at all turns, doors, and passageways, and are not obstructed by physical barriers or stored materials;
- Provide and maintain standard guardrails to protect employees from falling to a lower level, or onto equipment. Standard guardrails must have a toeboard, midrail, toprail, and posts meeting the applicable regulatory requirements;
- Maintain housekeeping by keeping areas neat and orderly, discarding of waste properly, keeping floors dry and clean (mats and grating may be used when appropriate);

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- Provide proper guarding for floor openings, open pits, ditches, and other open areas by covering or guarding with a standard railing. If the opening is not guarded or covered, it must be protected by a temporary barrier on all exposed sides or attended by an assigned person;
- Provide appropriate railings for stairways that are 30” – 34” to tread;
- Guard all open-sided platforms that measure four feet or more above the adjacent floor of ground level with a standard railing on all open sides;
- Standard railings with toeboards must be in place regardless of height of open-sided floors, platforms, runways, or walkways above or adjacent to dangerous equipment, tanks, hazardous processes, or any other similar hazards;
- Establish six foot controlled access zones along pits, floors, and flat roof edges where fall protection is not feasible. A controlled access zone must use control lines or other barriers to restrict employee access to fall hazards. Post warning signs at controlled access zones;
- Employees working on a steep slope roof (greater than four inches of run per twelve inches of rise) that are four feet or more above a lower level must be protected from falls by a guard rail system, personal fall arrest system, or safety net system; and
- Employees working on low-slope roofs (less than or equal to four inches of run per twelve inches of rise) with unprotected sides and edges that are four feet or more above a lower level are protected by one of the following methods:
 - A guard railing system
 - A personal fall arrest system
 - A safety net system
 - A combination of a “warning line” and any other of the above
 - A combination of a “warning line” and a safety monitor.

6.2 Fixed Industrial Stairs

Fixed stairways must also be designed and constructed to carry a load of five (5) times the normal live load anticipated at any one time, be able to safely carry a moving concentrated load of 1000 pounds, have a minimum width of twenty-two (22) inches, be installed at angles to horizontal between 30 and 50 degrees, and be reasonable slip-resistant. Unprotected sides of stairs and edges of landings must have properly designed and constructed guard and hand railing systems in place.

Fixed industrial stairs must be provided:

- For access between structure levels where operations require regular travel;
- For access to operating equipment which require periodic attention/maintenance during operations;
- Where access to elevations for inspections, routine maintenance, gauging, work with hazardous materials, etc. is daily or at each shift; and
- When employees are routinely carrying tools or equipment by hand from one level to another.

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6.3 Scaffolding

- Only competent or qualified persons will direct the erection, alteration, and dismantling of scaffolds, and will inspect the scaffolding before use, and the end of the work shift, and before each work shift begins.
- Use qualified engineers to design scaffolds over fourteen (14) feet high.
- Ensure that the footing or anchorage for scaffolds is sound, rigid, and capable of carrying the maximum intended load without settling or moving.
- Do not use unstable objects to support scaffolds or planks.
- Ensure every scaffold and its components are capable of supporting at least four (4) times the maximum intended load.
- Never move or alter scaffolds while in use or occupied.
- Repair any damaged or weakened scaffolds immediately and do not use them until repairs have been made.
- Always use a safe means to gain access to the working platform level by using a ladder or a ramp.
- Provide overhead protection at all times for employees on a scaffold who are exposed to overhead hazards.
- Ensure that top rails, midrails, and toeboards are installed on all open sides, and at the end of platforms more than four feet above the ground floor. Wire mesh must be installed between the toeboard and the guardrail along the entire opening where any employees are required to work or pass under the scaffolds.
- Never work on scaffolds during storms or high winds, when covered with ice or snow, where overhead power lines are present, or when components are damaged or weakened.

6.4 Mobile Elevated Work Platforms

Ensure that mobile elevated work platforms are properly designed and equipped (platform size, load bearing capacity, standard guardrail and toeboards, slip-resistant floors, outrigger frames and stabilizers, if necessary, components to prevent an uncontrolled free fall, ground level emergency controls for lower the platform, etc.)

- Platforms attached to a powered industrial truck are rated for use on each model of lift truck;
- Work platform must:
 - Be positioned on stable and level surfaces, use outriggers when the platform height exceeds four (4) times the minimum base dimensions, and have wheels locked when in use;
 - Avoid blocking aisles and fire doors and avoid use near live electrical power sources;
 - Use guard rails during climbs and descents and safeguard against employees leaning over the edge; and
 - Not be overloaded or moved elevated.
- Employees must wear personal fall arrest systems on mobile elevated work platforms that can be positioned outside of the wheel base of the vehicle whenever there is a potential to fall more than four (4) feet. The fall protection lanyard is attached to the boom or basket, and not to adjacent structures or equipment. See Fall Protection/Fall Arrest program.

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- Platforms must be maintained in good condition, and inspected on a periodic basis in conformance with the manufacturers' recommendations. Inspections and tests of critical electrical, hydraulic, and pneumatic equipment are conducted in accordance with the requirements of ANSI, or its equivalent.

6.5 Step, Portable, and Fixed Ladders

- Use only ladders, including fixed ladders, which comply with ANSI Standards and all other applicable codes and regulations;
- Identify and use ladders that are appropriate for the type of work to be accomplished (example: nonconductive ladders for electrical work);
- Use safe practices when using ladders, including:
 - Keep and maintain ladders in good condition at all times;
 - Always place a ladder on secure footing, and tie off portable ladders to prevent slipping, with the base of the ladder placed on foot out for each four feet of height;
 - When using a ladder for roof access, extend it a minimum of three (3) feet above the point of support, and tie it off or have an attendant to support it;
 - Do not use ladders as guys, braces, or skids;
 - Do not use ladders in a horizontal position as platforms, runways, or scaffolds;
 - When traveling on ladder, (a) always face the ladder, (b) always use both hands, and (c) do not carry tools or materials in hands;
 - Do not splice short ladders to make a longer ladder;
 - Place barricades around ladders in use in aisles or passageways;
 - Do not place ladders in front of doors opening towards the ladder unless the door is blocked open, locked, or guarded;
 - Keep the torso inside the side rails of ladder;
 - Do not use the top of a stepladder as a step;
 - Equip fixed ladders over twenty-four (24) feet in length with a ladder safety device starting a seven (7) feet from the floor or work platform; and
 - Fixed ladders over thirty (30) feet in length must have a platform included to break up the length of the climb.
- Contractors must supply their own ladders;
- Conduct documented inspections of ladders every six (6) months. Any ladders that are damaged must be taken out of service and tagged or marked as "DANGER-DO NOT USE" until repaired or replaced. Destroy defective ladders that cannot be repaired;
- Perform necessary maintenance periodically, such as lubrication of metal bearings, locks, wheels, pulleys, and other similar components; and
- Store ladders in a dry, clean location to protect them from damage.

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7.0 TRAINING

- Train employees who may be exposed to the specific hazards related to walking and working surfaces, scaffolding, mobile elevated work platforms, and portable and fixed ladders, and the precautions and safeguards required to prevent injuries.
- Ensure competent or qualified persons are qualified by training and experience to perform their designed roles in each of the above areas.
- Ensure retraining is accomplished for all affected employees whenever there is a change in the appropriate area noted above, or when an employee is noted deviating from the prescribed safe work practices.
- Certify training with written training records.
- Verify training effectiveness through actual work observations.

8.0 PROGRAM APPROVAL AND REVIEW

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