



SECTION 14
SCAFFOLDS



1. SCAFFOLDS

- A. **OSHA References:** 29 CFR 1926 Subpart L 450-454
- B. **General:** This section outlines the basic construction guidelines for the erection or scaffolding above ground. It is not possible to cover every type of scaffold listed in the above referenced OSHA Standard. Reference to that standard must be made for more specific information. All scaffold design, construction, and use must be in accordance with the OSHA Standard.
- C. **Scaffold Construction:** Design, construction, and modification of constructed scaffold will be accomplished by qualified persons only. Unqualified persons are not permitted to make changes or alterations to any scaffolding. Alteration of structural members, cross bracing, etc. and changes in designed scaffold construction will not be permitted. Personnel who make unauthorized modifications to scaffolding will be subject to disciplinary actions as outline in section 2.
- D. **Inspection:** A qualified, competent person will conduct inspection of structural members of scaffold, i.e. tube and coupler or welded frame scaffold, on an annual basis. Additionally, all parts, used in scaffold construction will be inspected during the construction phase for obvious signs of damage and corrosion. Damaged and corroded parts will be made non functional and immediately removed from the work site. Employees assigned to work on the scaffold will conduct daily inspections using the Maul Electric, Inc, scaffolding inspection form, at the beginning and end of the workday. All defects, damage or unsafe conditions will be reported immediately and the scaffold will be tagged as unsafe (examples of tags are attached) and roped off to prevent use until repairs have been made.
- E. **Training:** The instructor shall be qualified and adequately trained in the proper use and safety procedures for scaffolding and shall be responsible for training all potential users during the new employee orientation and prior to use. In the event a new scaffolding system is employed, additional training on this system will commence immediately or employees will be retrained when conditions change. Training for all affected employees will include at a minimum:
 - a) The company scaffold program requirements.
 - b) Identification and elimination of fall hazards on the job site.
 - c) Safe work in hazardous areas.
 - d) Hazards associated with working near fall hazards.
 - e) Selection, use, care and inspection of scaffold equipment.
 - f) Address electric hazards
 - g) Identification of potential falling objects
 - h) Load capacity
- F. **Dismantling:** Scaffold will be dismantled as soon as the job is completed.



- G. **Fall Protection:** A designated competent person will determine the feasibility and safety of providing fall protection for employees erecting and/or dismantling scaffolding. For a detailed description of fall protection requirements see 29 CFR 1926.451 (g).
1. Scaffolds, six feet and higher, must be equipped with handrails, mid rails, toe boards, and an access ladder or stairway.
 2. All handrails shall be a lumber size of 2" x 4" in dimension. The top of the handrail shall be forty-two inches +/- 3 inches above the platform, which they are constructed on.
 3. All midrails shall be of an undressed lumber size of 2" x 4" in dimension. The midrail shall be centered between the top rail and the working platform.
 4. **Individuals working on scaffolds without hand rails or mid rails installed are required to wear fall protection above the working height of 10 feet.**
- H. **General Construction Guide Lines:**
1. All scaffolds must be constructed to support four times the anticipated maximum weight or load.
 2. Drawings and specifications, supplied and stamped by a professional engineer are required for scaffolding higher than 60 feet.
 3. All scaffolding components, wood and metal are to be inspected prior to use.
 4. Lumber used to construct a scaffold, and subject to stress, must be straight grained, free of loose or dead knots, and/or other defects, which might impair its strength or durability.
 5. All welded tubular metal frames are to be checked for cracked welds, rust, and deterioration. All cross braces, alignment pins, screw jacks, wheels, handrails and base plates must be inspected for signs of deterioration.
 6. Scaffolding constructed on a sound concrete surface must have a base plate or scaffolding foot at each vertical member.
 7. All sections of tube and coupler scaffold must be locked together to prevent uplift.
 8. When a scaffold is to be constructed on a surface other than concrete, the area shall be graded as level as possible. The scaffold shall be constructed to rest on a mudsill that will be perpendicular to a cross brace, or the shorter distance between two vertical post. The footing and the mudsill shall be sound, rigid, and capable of carrying the full load without settlement or movement in any direction.
 9. All platform decking must be 2" x 10" undressed lumber, full thickness and shall overhang not less than 6" and not more than 12". Scaffold planks shall be battened together and secured with no.



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- 9 wire and or a wooden cleat with no protruding nails. Scaffold platforms shall be tightly planked for the full width of the scaffold.
 10. All planking used for platform decking shall be an approved Western White Spruce, or equal construction grade.
 11. Where planking is lapped, each plank shall lap its end support by 12 inches at a minimum. The end or edge of all planks shall be uniform in length, not staggered.
 12. Scaffold frames and / or benches must not be placed greater than eight feet on center in a horizontal direction parallel with the cross bracing. This tubular scaffold, with 2" undressed scaffold planking will yield a working load of 50 pounds per square foot. (50 p.s.f.).
 13. Access Stairways for scaffolds shall have all required railings and platforms that would normally be provided on a typical stairway.
 14. Scaffolds shall be secured to a building and / or structure at twenty-four foot vertical intervals when the height of the scaffold exceeds four times the minimum base dimension above ground. In the horizontal direction, a scaffold shall be secured to a building and / or structure at a maximum of thirty-foot intervals.
 15. Precautions must be provided to protect employees from entering or exiting an access ladder or stairway from vehicular and or construction traffic.
 16. Scaffolding must be protected from vehicular and / or construction vehicle traffic.
 17. When working on more than one level of a scaffold at the same time, each level above the working platform must be completely planked to protect the working platform
 18. Area below the scaffold should be warning taped to prevent accidental entry below the work area.
 19. Pedestrian traffic and / or a walkway area, adjacent to a scaffold shall be protected by installing a one-half inch wire mesh at each working platform. The mesh will be placed between the handrail and secured to the toe board
 20. Open flame burning and or welding will not be permitted on a scaffold unless provisions are made to protect against the risk of fire on the scaffold or scaffolding material and the immediate area. Should burning or welding be required, the following procedures must be followed:
 - a) All four sides of the scaffold and the planking around the immediate working area will be covered with a fire resistant blanket.
 - b) Proper ventilation must be provided for the working area.
 - c) A fire watch will be provided.
 21. Platforms that are covered or partially covered with snow, ice, water, oil, or other slippery material will not be used until the material is cleared. The distribution of rock salt to melt snow or ice is not acceptable as it can corrode the scaffolding and creates a slipping hazard by itself.



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22. Items such as valves, piping, blind flanges, etc., weighing over 150 pounds will not be stored on the scaffolding platform.
 23. Airlines, welding lines, tag lines, etc., will not be tied off to the scaffold.
 24. Scaffold frame members will not be used for the purpose of rigging or hoisting. The installation of an approved hoisting device is required.
 25. Tools, materials, and equipment will not be thrown off of the scaffold or dropped to ground level. The clearance between scaffolds and power lines shall be as stated in paragraph (f) (6) in OSHA Regulation 1926.451.
 26. In addition to wearing hardhats each employee on a scaffold shall be provided with additional protection from falling hand tools, debris, and other small objects through the installation of toe boards, screens, or guardrail systems, or canopy structures that contain or deflect the falling objects. Paragraph (h) OSHA Regulation 1926.451

I. Aerial Lifts

1. Extensible and Articulating Boom Platforms

- a) Lift controls must be tested each day prior to use to determine that such controls are in safe working condition.
- b) Only authorized trained persons will be permitted to operate an aerial lift.
- c) Belting off to adjacent pole, structure, or equipment while working from an aerial lift will not be permitted.
- d) All employees will always stand firmly on the floor of the basket and **will not be permitted** to sit or climb on the edge of the basket or use planks, ladders or other devices for a work position.
- e) A Full Body Harness must be worn and a lanyard attached to the basket when working from an aerial lift.
- f) Boom basket load limits specified by the manufacturer will not be exceeded.
- g) An aerial truck must not be moved when the boom is elevated in a working position with men in the basket, except for equipment that is specifically designed for this type of operation.
- h) Articulating boom and extensible boom platforms primarily designed, as personnel carriers must have both platform and lower controls.
- i) Climbers must not be worn while performing work from an aerial lift.
- j) The insulating portion of an aerial lift must not be altered in any manner that might reduce its insulating value.



- k) All lifts shall be designed and constructed in accordance with ANSI requirements for "Vehicle Mounted Elevating and Rotating Work Platforms"
- l) All modifications to lifts must be certified in writing by the manufacture.
- m) The lift shall be equipped with a back up alarm or be backed up by a spotter.
- n) All aerial lifts will be kept a minimum of 10 feet from all electrical lines rated 50kv or less.

J. **Scaffolding users (persons working on or off of scaffolding) shall be trained on the following information:**

1. **Overhead Protection** - When persons are working on the scaffold and an overhead hazard exists, overhead protection shall be provided to the user and shall be positioned not more than 9' above the working platform of the scaffold.
2. Snow and ice on the scaffold must be removed and the planking sanded before the scaffold is to be used.
3. Tools, materials, and debris shall not be allowed to accumulate so as to create a hazard on scaffold platforms.
4. **Fall Protection** - is not required when employees are inspecting, investigating, or assessing workplace conditions prior to the start of work or after work is completed.
 - a) **Floor openings**, including openings in the scaffold planking 6' or more above the ground or floor shall be protected with a guardrail or safety net system. Personal Fall Arrest can be used as an alternative or in combination. For safety net requirements please see the definition section of this policy.
 - b) **Dangerous equipment** located below or in close proximity to a scaffolding system shall be protected or guardrails shall be installed at the opening.
 - c) **Building Side Scaffolds** - Guardrails which are not required on the building side of a scaffold when the platform is less than 16" from the building itself.
 - d) **Controlled Access Zone (CAZ)** - In areas where fall protection is not feasible or in areas where scaffolds make the work more dangerous (i.e. bricklaying), when reaching less than or equal to 10" below the working surface, the CAZ line prevents non-overhand bricklayers from inadvertently entering the area immediately adjacent to the fall hazard. The CAZ designates the area where overhand bricklaying may be performed without the use of guardrails, safety nets, or personal fall arrest systems as fall protection.
 - (1) If the overhand bricklayers must reach more than 10" below the working scaffold surface, a guardrail,



safety net, or other type of fall protection system must protect the bricklayer.

- e) **Safety Nets** - If safety nets are selected as a means of fall protection, they shall be installed directly beneath the walk or working surfaces but shall **not** be greater than 30' below said walking or working area of the scaffold.
 - (1) Area requirements for safety nets are outlined in the definition section.
 - (2) The nets shall be installed so as to provide sufficient clearance beneath them to prevent contact with a surface or structure below if a fall occurs.

- f) **Personal Fall Arrest Systems** - Anchorage devices, connectors, or body harnesses, which may include a lanyard, deceleration device, lifeline, or suitable combination of these. The personal fall arrest system:
 - (1) Shall be inspected prior to use
 - (2) Shall not be attached to a guardrail system
 - (3) Shall not be attached to hoisting equipment unless the system prevents the employee from walking off the work surface

- g) **Positioning Devices** - devices that shall prohibit an employee from free-falling more than 2 feet.
- h) **Worker Safety** - a safety harness attached to a lifeline shall protect each worker. The lifeline shall be securely attached to substantial members of the structure - not the scaffold - or to closely rigged lines, which will safely suspend the worker in case of a fall.
- i) **Training** – The Scaffolding users will receive the following additional training: Hazards (falls, electrical, and falling objects) fall protection, use, and load capacity



SCAFFOLD ACCEPTANCE TAG

ACCEPTED / NOT ACCEPTED	
Complete Platform	Sound, Level Flooring
Guardrails	Barricaded
Toeboards	Framing Complete
Access Ladder	
Comments:	
Signature:	
Date:	