

SCAFFOLDING - OSHA subpart L 1926.451

Refer to the VOSHA Safety and Health Standards for construction handbook for more in depth and specific information on certain scaffold systems.

A. General Rules for Scaffolds

1. Always place scaffolds on solid footing. Do not use unstable objects such as loose brick or concrete blocks to support scaffolding. The footing must be sound, rigid, and must carry maximum intended load without moving or settling.
2. A competent person must supervise all erection, alteration, and dismantling of scaffold systems.
3. Platforms more than 10 feet above the ground must have guardrails and toe boards installed on all open sides and ends. Guardrails must be 2" x 4" and approximately 42" high. A midrail should be placed approximately halfway between the platform and top rail. Toe boards must be a minimum of 4 inches in height. Standard toe boards employ standard 1 x 6 lumber. Rail supports must be placed at intervals of 8 feet or less. Exceptions to this would be needle beam scaffolds or floats where a safety harness and lifeline are required.
4. Scaffolds 4 to 10 feet in height require guardrails and toe boards when they have a minimum horizontal dimension less than 45 inches in either direction.
5. Sections where person are required to work or pass under the scaffold must have protective screening installed between the toe board and midrail. Screening must be ½" mesh 18 gauge wire.
6. Scaffolds must be capable of supporting at least 4 times the maximum intended load without failure.
7. Any weakened or damaged component of scaffolding must be repaired or replaced immediately.
8. Load carrying timber members of scaffold framing must be a minimum of 1500 fiber (Stress grade) construction grade lumber. When using tables for sizing lumber be careful to note if undressed lumber size or nominal lumber sizes are used.
9. All planking used must be scaffold grade, or equivalent, as recognized by approved grading rules for the species of wood used. All heavy duty operations require the use of full thickness lumber. For example: 2x10 plank must measure 2"x10" not 1 ½" x 9 ½". For planking of 2x10 or wider the following spec apply.

	Full Thickness			Nominal Thickness	
	Undressed Lumber			Lumber	
Working Load (Lbs per Sq. Ft)	25	50	75	25	50
Maximum Span (ft)	10	8	6	8	6

10. The maximum permissible span for 1 ¼" by 9 inches or wider planking of full thickness shall be 4 feet with a medium duty loading of 50 lb per square foot.

11. Scaffold planking must be overlapped a minimum of 12 inches or secured from movement.
12. Safe access to the platform, such as the use of a ladder, must be provided.
13. Scaffold planks must extend at least 6 inches but no more than 12 inches beyond their supports.
14. All scaffold poles, legs, and uprights must be plumb and rigidly braced to prevent swaying and displacement.
15. Make sure overhead protection is provided for persons working on scaffolds with overhead hazards.
16. Slippery or dangerous conditions on scaffolds must be corrected immediately.
17. No welding, burning or open flame work shall be permitted on any staging suspended by fiber or synthetic rope.
18. Keep scaffolds clean and free of excess debris. Remove all tools and loose objects at the end of each work day.

B. Mobile Scaffolding

1. Platforms must be tightly planked full width and secured in place. (except for necessary access opening)
2. Guardrails and toe boards as prescribed in A.3 are required for all mobile scaffolds.
3. Wire mesh as prescribed in A.5 is required whenever persons are required to work or pass beneath the staging.
4. All casters must be locked in position while work is in progress.

C. Suspended/Swinging Scaffolding:

The bridge basket used by the Company is of this type.

1. Make sure the hanger pins are properly installed under the bridge railing. The bridge railing must be in good shape and capable of safely sustaining 4 times the intended loading.
2. Tie back the scaffold using ¾" manila rope, or the equivalent. This serves as a secondary point of anchorage and should be secured at right angles to the unit to a structurally sound portion of the bridge.
3. All ropes, hangers and platforms must be inspected before installation. Continuous monitoring must be done by a competent person during all operations.
4. On suspension scaffolds designed for a working load of 500 pounds no more than two persons will work in the basket at one time. For a working load of 750 pounds no more than 3 persons will work in the basket at one time. Our present basket is designed for a working load of 750 pounds but for heavy work only 2 persons will be allowed in the basket.
5. Each employee must be protected by an approved safety harness attached to a lifeline. The lifeline must be securely attached to the bridge or another immovable object. Do not attach the lifeline to the basket or to a vehicle which could be moved. The lifeline must be of sufficient size to suspend the employee in case of fall. The lifeline must be continuously attached and secured with minimum slack.

D. Tubular Welded Frame Scaffolds

1. All components of the welded frame scaffold must be able to withstand four times the intended working load.
2. Follow manufacturer instructions on set up of tubular scaffolds. All cross braces and diagonals must be properly installed. The proper components will automatically square and plumb the staging. Make sure all connections are secure and all locking connections are functional. Any broken or bent components must be repaired or replaced as necessary to ensure safe set-up.
3. Make sure to set the staging on bases that can withstand maximum loading without failure, movement, or settling.
4. Panels must be pinned where uplift may occur.
5. The scaffold must be secured to the building or structure at intervals no more than 30 ft. horizontally and 26 ft. vertically.
6. Follow the general rules for guardrails and toe boards in section A-3, A-4, A-5 of this document.

E. Other types of scaffolding

There are many other types of scaffolding available. This document covers only the three (3) types generally used by the Company. If operations will involve other types of scaffolding, refer to your VOSHA Handbook sub-part L, 1926.451 starting on page 111 of the 1991 edition. Any questions must be directed to the office immediately to ensure safe operations.