

11.1: Introduction to Scaffold Safety

Introduction

Construction workers are often required to climb and work on scaffolding. Many times, workers are required to construct the scaffolding they are going to work on while in other areas the scaffolding will be constructed for them. Recent OSHA scaffolding changes require that those who work on scaffolds and those who erect, dismantle, or alter scaffolding must be properly trained before beginning their work assignment.

General Requirements

Applicability

Subpart L applies to all scaffolds used in workplaces. It does not apply to crane or derrick suspended personnel platforms, which are covered by 1926.550(g). In addition, the criteria for aerial lifts are set out exclusively in 1926.453.

Load requirements

In general, each scaffold and scaffold component shall be capable of supporting, without failure, its own weight and at least 4 times the maximum intended load applied or transmitted to it. Scaffolds shall be designed by a qualified person and shall be constructed and loaded in accordance with that design.

Planking or Decking

Each platform on all working levels of scaffolds shall be fully planked or decked between the front uprights and the guardrail supports as follows:

1. Each platform unit (e.g., scaffold plank, fabricated plank, fabricated deck, or fabricated platform) shall be installed so that the space between adjacent units and the space between the platform and the uprights is no more than one inch wide, except where the employer can demonstrate that a wider space is necessary (for example, to fit around uprights when side brackets are used to extend the width of the platform). Where the employer makes such a demonstration, the platform shall be planked or decked as fully as possible and the remaining open space between the platform and the uprights shall not exceed nine inches.
2. The requirement to provide full planking or decking does not apply to platforms used solely as walkways or solely by employees performing scaffold erection or dismantling. In these situations, only the planking that the employer establishes is necessary to provide safe working conditions is required.

Platform and Walkway Width

In general, each scaffold platform and walkway shall be at least 18 inches wide. However, ladder jack scaffold, top plate bracket scaffold roof bracket scaffold, and pump jack scaffold shall be at least 12 inches wide. Where scaffolds must be used in areas that the employer can demonstrate are so narrow that platforms and walkways cannot be at least 18 inches wide, such platforms and walkways shall be as wide as feasible, and employees on those platforms and walkways shall be protected from fall hazards by the use of guardrails and/or personal fall arrest systems.

Platform requirements

The front edge of all platforms shall not be more than 14 inches from the face of the work, unless guardrail systems are erected along the front edge and/or personal fall arrest systems are used. Each end of a platform, unless cleated or otherwise restrained by hooks or equivalent means, shall extend over the centerline of its support at least 6 inches.

Each end of a platform 10 feet or less in length shall not extend over its support more than 12 inches unless the platform is designed and installed so that the cantilevered portion of the platform is able to support employees and/or materials without tipping, or has guardrails which block employee access to the cantilevered end.

Each platform greater than 10 feet in length shall not extend over its support more than 18 inches unless it is designed and installed so that the cantilevered portion of the platform is able to support employees without tipping, or has guardrails which block employee access to the cantilevered end.

On scaffolds where scaffold planks are abutted to create a long platform, each abutted end shall rest on a separate support surface. This provision does not preclude the use of common support members such as "T" sections, to support abutting planks, or hook on platforms designed to rest on common supports. On scaffolds where platforms are overlapped to create a long platform, the overlap

shall occur only over supports, and shall not be less than 12 inches unless the platforms are nailed together or otherwise restrained to prevent movement.

At all points of a scaffold where the platform changes direction, such as turning a corner, any platform that rests on a bearer at an angle other than a right angle shall be laid first, and platforms which rest at right angles over the same bearer shall be laid second, on top of the first platform.

Platform finishes

Wood platforms shall not be covered with opaque finishes, except that platform edges may be covered or marked for identification. Platforms may be coated periodically with wood preservatives, fire-retardant finishes, and slip-resistant finishes; however, the coating may not obscure the top or bottom wood.

Component compatibility

Scaffold components manufactured by different manufacturers shall not be intermixed unless the components fit together without force and the scaffold's structural integrity is maintained by the user.

Scaffold Access for all Employees

Means of Access

When scaffold platforms are more than 2 feet above or below a point of access, portable ladders, hook-on ladders, attachable ladders, stair towers (scaffold stairways/towers), stairway-type ladders (such as ladder stands), ramps, walkways, integral prefabricated scaffold access or direct access from another scaffold, structure, personnel hoist, or similar surface shall be used. Cross braces shall not be used as a means of access.

Positioning

Hook-on and attachable ladders shall be positioned so that their bottom rung is not more than 24 inches above the scaffold supporting level. When hook-on and attachable ladders are used on a supported scaffold more than 35 feet high, they shall have rest platforms at 35 foot maximum vertical intervals.

Effective Date

Effective September 1997, employees erecting or dismantling supported scaffolds shall be provided with a safe means of access where the provision of safe access is feasible and does not create a greater hazard. The employer shall have a competent person determine whether it is feasible or would pose a greater hazard to provide, and have employees use a safe means of access. This determination shall be based on site conditions and the type of scaffold being erected or dismantled. Hook-on or attachable ladders shall be installed as soon as scaffold erection has progressed to a point that permits safe installation and use.

End Frames

When erecting or dismantling tubular welded frame scaffolds, (end) frames, with horizontal members that are parallel, level and are not more than 22 inches apart vertically may be used as climbing devices for access, provided they are erected in a manner that creates a usable ladder and provides good handhold and foot space. Cross braces on tubular welded frame scaffolds shall not be used as a means of access or egress.

Visible Defects

Scaffolds and scaffold components shall be inspected for visible defects by a competent person before each work shift, and after any occurrence, which could affect a scaffold's structural integrity. Any part of a scaffold damaged or weakened such that its strength is significantly weakened shall be immediately repaired or replaced, braced, or removed from service until repaired.

Moving

Scaffolds shall not be moved horizontally while employees are on them unless they have been designed by a registered professional engineer specifically for such movement or, for mobile scaffolds, where the provisions of 1926.452(w) are followed.

Clearance

Scaffolds shall not be erected, used, dismantled, altered, or moved such that they or any conductive material handled on them might come closer to exposed and energized power lines as follows:

Insulated Lines

Overhead Power line Clearances

Voltage	Minimum Distance	Alternatives
Less than 300V	3 ft (0.9m)	*****
*300 Volts to 50kV	10 ft (3.1m)	*****
More than 50kV	10 ft (3.1m) plus 0.4 inches (1.0cm) for each 1kv over 50kV	2 times the length of the line insulator, but never less than 10ft (3.1 m)

Uninsulated Lines

Overhead Power line Clearances

Voltage	Minimum Distance	Alternatives
Less than 50kV	10 ft (3.1 m)	*****
More than 50kV	10 ft (3.1 m) plus 0.4 inches (1.0 cm) for each 1kv over 50kV	2 times the length of the line insulator, but never less than 10ft (3.1 m)

Note

Scaffolds and materials may be closer to power lines than specified above where such clearance is necessary for performance of work, and only after the utility company, or electrical system operator, has been notified of the need to work closer and the utility company, or electrical system operator has **de-energized** the lines, **relocated** the lines, or **installed protective coverings** to prevent accidental contact with the lines.

Moving, dismantling, or altering

Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling or alteration. Such activities shall be performed only by experienced and trained employees selected for such work by the competent person.

Slipping hazards

Employees shall be prohibited from working on scaffolds covered with snow, ice, or other slippery material except as necessary for removal of such materials.

Inclement Weather

Work on or from scaffolds is prohibited during storms or high winds unless a competent person has determined that it is safe for employees to be on the scaffold and those employees are protected by a personal fall arrest system or wind screens. Wind screens shall not be used unless the scaffold is secured against the anticipated wind forces imposed.

Work level height

Makeshift devices, such as, but not limited to, boxes and barrels, shall not be used on top of scaffold platforms to increase the working level height of employees. Ladders shall not be used on scaffolds to increase the working level height of employees, except on large area scaffolds.

Note

"Large area scaffold" means a pole scaffold, tube and coupler scaffold, systems scaffold, or fabricated frame scaffold erected over substantially the entire work area.

For example: a scaffold erected over the entire floor area of a room.

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