Scaffolds

OSHA 10-Hour Construction Industry Course

Required Online Topic Time: 30m

Learning Objectives

Duration

30 minutes

Terminal Learning Objective

Given best practices and current OSHA and industry information regarding worksite injuries and/or fatalities, the student will be able to recognize how to protect themselves from hazards associated with scaffolds.

Enabling Learning Objectives

- Describe the role of a competent person related to scaffolding.
- Identify the types of scaffolds commonly used on construction sites.
- Describe hazards associated with scaffolds.
- Discuss methods to prevent hazards associated with scaffolds.
- Recognize employer requirements to protect workers from scaffold hazards.

Introduction

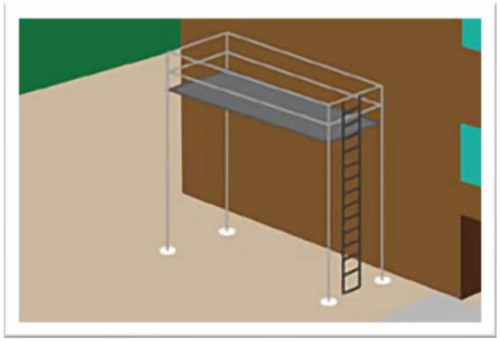
Approximately 65% of construction workers frequently work on scaffolds. Scaffold-related accidents account for approximately 4,500 injuries and 50 fatalities every year.

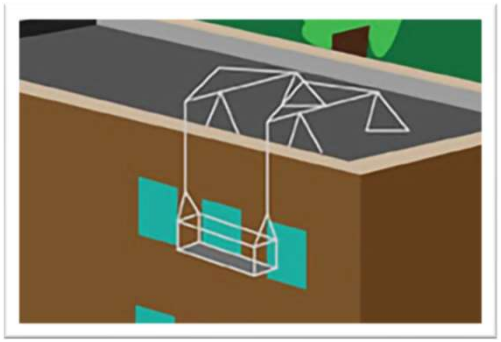
In a Bureau of Labor and Statistics study, almost three-quarters of workers injured in scaffold accidents attributed the accident either to the planking or support giving way, or to the employee slipping or being struck by a falling object.

Scaffolds Basics & Responsibilities

Types of Scaffolds:

- ***Supported Scaffold:*** *platforms supported by legs, outrigger beams, brackets, poles, frames, or similar rigid supports*
- ***Suspended Scaffold:*** *contains one or more platforms suspended by ropes or other non-rigid means from an overhead structure*
- ***Aerial Lift:*** *vehicle-mounted aerial devices used to elevate employees, such as extensible boom platforms, articulated boom platforms, and vertical towers*





Scaffolds Basics & Responsibilities continued...

A competent person is someone the employer appoints. They need:

- *To have the background and training to **identify hazards** related to scaffolds.*
- *To determine a **qualified design** for the scaffold.*
- *To **inspect** the scaffolds and **ensure** their safe use.*
- *To **train** all employees who erect, disassemble, move, operate, repair, maintain, inspect or work on scaffolds.*
- *To take **prompt, corrective action** anytime it's required.*

Employers **must** follow the recommendations of the competent person and all manufacturer's recommendations regarding safety issues around scaffolds.

Scaffolds Basics & Responsibilities continued...

Knowledge Key

Your employer must select a designated competent person who oversees the assembly, disassembly, inspection, and safe use of scaffolds. The competent person is also responsible for designing scaffolds, having the ability to identify hazards, and having the authority to take any corrective actions needed. They must also train all employees who erect, disassemble, move, operate, repair, maintain, inspect, or work on scaffolds. There are three types of scaffolds: supported, suspended, and aerial. A supported scaffold means one or more platforms supported by outrigger beams, brackets, poles, legs, uprights, posts, frames, or similar rigid support. A suspended scaffold means one or more platforms suspended by ropes or other non-rigid means from an overhead structure(s). Finally, aerial scaffolds include vehicle-mounted aerial devices used to elevate personnel to job-sites above ground.

Hazards Associated with Scaffolds

Hazards associated with Scaffolds:

- **Falls**: slips, unsafe access, lack of fall protection, platform failure
- **Falling Objects**: fallings tools, debris. Prevent by using hardhats, debris nets, and toeboards
- **Electrocution**: scaffolds must be a safe distance from power lines and other electrical hazards
- **Planking**: planks must be scaffold-grade lumber
- **Collapse Hazard**: must be properly secured, and not overloaded
- **Weather Conditions**: rain, snow, wind, and lightning are all hazards
- **Collisions or Struck-By**: construction vehicles or MV

Hazards Associated with Scaffolds continued...

Knowledge Key

The primary hazards that you'll be exposed to when working on scaffolds are falls, falling objects, electrical hazards, planking hazards, weather conditions, and collisions.

Reducing & Eliminating Scaffold Hazards

You must have a safe way to access any scaffold over two (2) feet. The permitted scaffold access types are:

- *Ladders, such as portable, hook-on, attachable, or stairway ladders*
- *Stair towers*
- *Ramps and walkways*
- *Integral prefabricated frames*
- *Other scaffolds, structures, or hoists*

Employers must provide fall protection for each employee on a scaffold more than 10ft (3.1m) above a lower level, including **guardrail systems** and **personal fall arrest systems**.

The risks of working on scaffolds can be greatly reduced by following scaffold safety standards.

Reducing & Eliminating Scaffold Hazards continued...

You can be hit by falling hand tools, debris, and other small objects.

To prevent this, toeboards, screens, guardrails, debris nets, catch platforms, canopy structures, or barricades should be constructed. Also, employees **must** wear hard hats.

If potential falling objects are too large, heavy, or massive to be contained or deflected by any of the above-listed measures, your employer must place any potential falling objects **away from the edge** of the surface from which they could fall and must **secure those materials as necessary** to prevent their falling.

Scaffolds shall not be erected, used, dismantled, altered, or moved such that they, or any conductive material handled on them, might come within the OSHA-approved distance to exposed and energized power lines.

Reducing & Eliminating Scaffold Hazards continued...

Knowledge Key

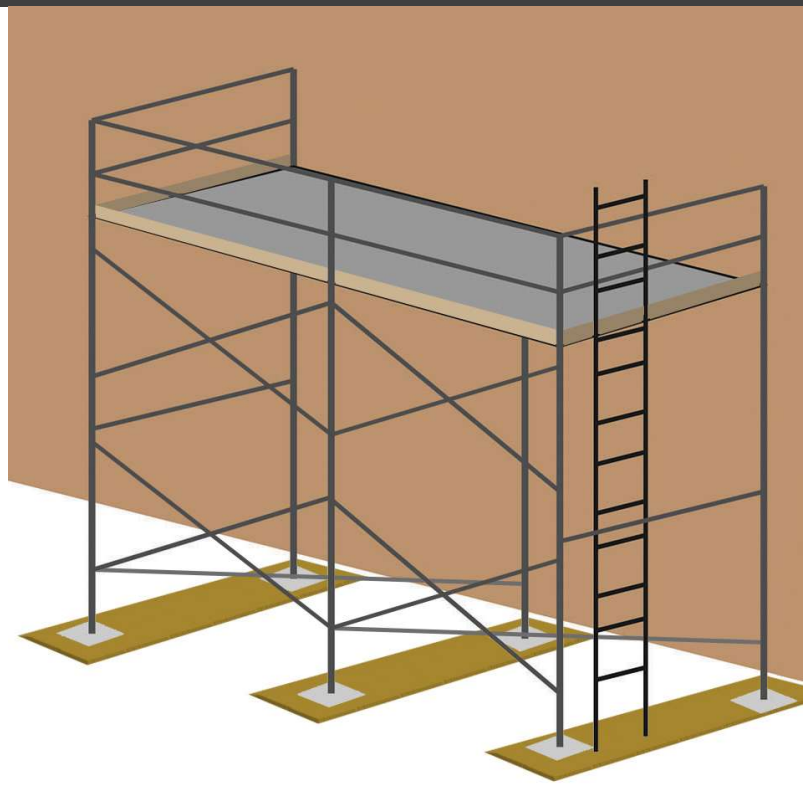
The risks of working on scaffolds can be greatly reduced by following scaffold safety standards. You must have a safe way, such as a ladder, stair tower, etc. to access any scaffold over 2 feet. Fall protection, such as guardrails and personal fall arrest systems, must be provided for any scaffold over 10 feet. Your employer has a duty to protect you from falling objects by providing suitable safety devices, such as nets, as well as by providing hard hats. OSHA sets specific criteria for distances between power lines and scaffolds. There are very specific standards that have to be met before a scaffold can be moved.

Scaffold Construction & Disassembly

All scaffolds must be erected, moved, dismantled or altered only by experienced and trained employees who have been selected for that work by the competent person.

The competent person must train these employees on the **nature of scaffold hazards**; **correct procedures** for erecting, disassembling, etc.; the **type** of scaffold in question; the **design criteria**; maximum intended **load capacity**; and **intended use** of the scaffold, as well as any other pertinent requirements.

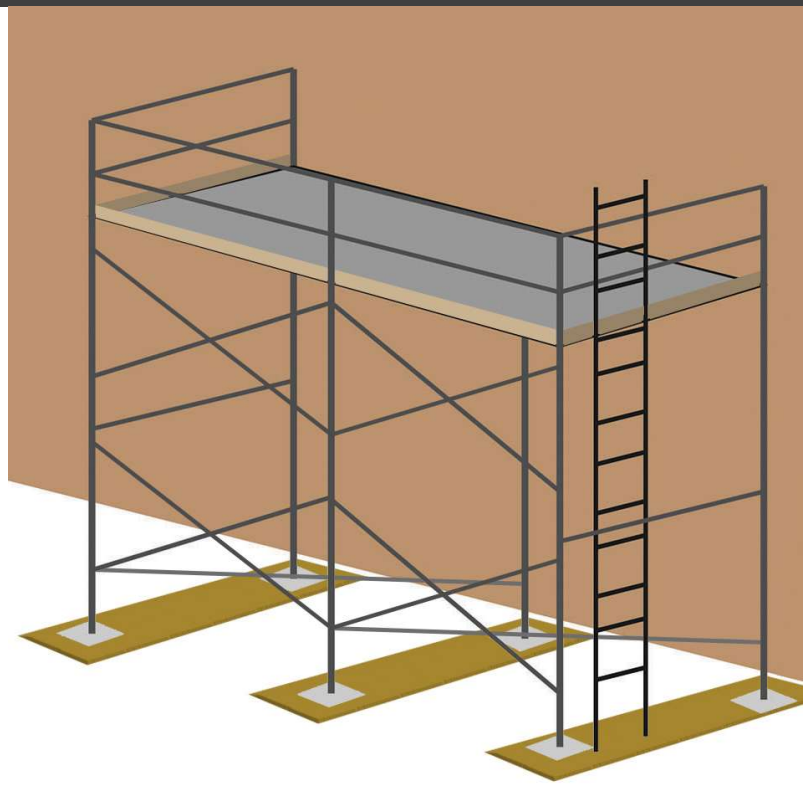
The competent person must **supervise** the assembly and disassembly of the scaffold and should make recommendations for **suitable fall protection** to the employer.



Scaffold Construction & Disassembly continued...

One of the best ways to prevent scaffold hazards is proper construction. OSHA also has defined construction standards for everything from the ground the scaffold is built on to the parts used to build it to who is allowed to work on the scaffold.

- *Scaffolds must be erected on stable grounds*
- *Each platform must be planked a decked as fully as possible*
- *Wheels and braces must both be locked*
- *The height of a scaffold should be no more than 4 times its minimum base dimension, unless guys, ties, or braces are used*
- *Use base plates/mudsills*
- *Consult a professional engineer when necessary*
- *Do not intermix scaffold components manufactured by different manufacturers*



Scaffold Construction & Disassembly continued...

Knowledge Key

Anytime scaffolds are assembled or disassembled, a competent person must oversee the operation and train anyone who will be assisting. The competent person is also responsible for recommending whether fall protection is needed for every scaffold assembled. When constructing a scaffold, there are specific criteria for the ground the scaffold is built on, the products and components used to build the scaffold, its height in comparison to the base, the construction of the platform, and whether or not a professional engineer is required to oversee the construction.

Practice Questions

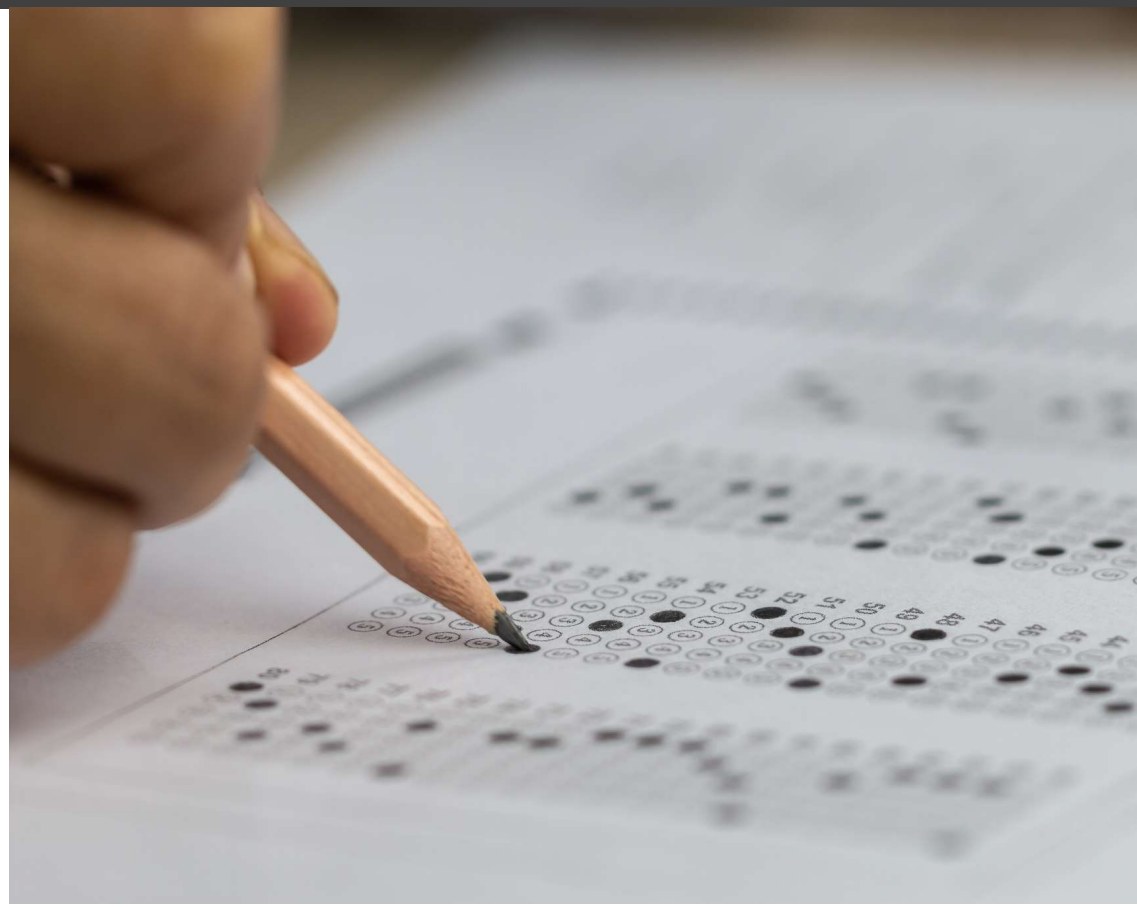
1. What are the responsibilities of the designated competent person with regard to scaffolds? Select all that apply.
    a. Designing scaffolds
    b. Overseeing the assembly, disassembly, inspection, and safe use of scaffolds
    c. Having the ability to identify hazards and having the authority to take any corrective actions needed
    d. Training all employees who erect, disassemble, move, operate, repair, maintain, inspect, or work on scaffolds

2. A worker is on a scaffold with no railings 20 feet above the ground. What hazards could be present in this situation? Select all that apply.
    a. No toeboard
    b. No guardrail
    c. No fall protection

3. Which of the following are common scaffold hazards? Select all that apply.
    a. Musculoskeletal disorders
    b. Falling objects
    c. Planking
    d. Lack of supervision
    e. Weather conditions
    f. Collisions

Practice Questions Answer Key

1. A, B, C, D
2. A, B, C
3. B, C, E, F



Conclusion

Great Job!

You have now completed the Scaffolds topic.