

# Scaffolds

## GENERAL DISCUSSION

Most scaffold injuries happen because the scaffold itself is unsafe. Scaffolds are often set up by another contractor, so we don't have as much control over them as we would like. But no matter who sets up the scaffold, don't work on it if you think there's a problem. Report it to a foreman or supervisor.

Scaffolds are strictly regulated, and today we'll look at some of the rules for building a safe scaffold and working on it safely. Keep in mind that you should never use unstable objects like stilts, bricks, blocks, or loose tile as a substitute for a scaffold. And some kinds of scaffolds are outlawed like shore scaffolds, lean-to scaffolds, and jack scaffolds. Don't take a chance on a scaffold that won't do the job!

You or a crew member may want to add a personal story about scaffolds.

Next, discuss with the crew where scaffolds will be used at this particular job site:

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### Ask the Crew these Questions

After each question, give the crew time to suggest possible answers. Use the information following each question to add points that no one mentions.

1. When and where do you need to use a scaffold?

You need a scaffold when:

- There is no solid construction (at least 20 inches wide) to stand on, and
- The work can't be done safely while standing on a ladder.

2. When a scaffold is built or dismantled, OSHA says that a qualified person must supervise. What does that person do?

- Advises on safety requirements.

- Inspects materials and construction methods used.
- Determines if the soil is stable.

The qualified person responsible for this job is:

Give name and location:

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If you're not sure a scaffold is safe, talk to a supervisor, the qualified person, or other site safety staff.

3. OSHA says that scaffolds must be built to meet certain standards. Do you know any of the specs for scaffolds?

Using a nearby scaffold, demonstrate the requirements below as the crew mentions them.

- An OSHA permit is required to erect a scaffold more than 36 feet high (3 stories).
- If a scaffold is 7½ feet or higher, it must have standard guardrails on its open sides and ends. (Guardrails are covered in more detail in a separate Training Guide.)
- If people work or pass below, the scaffold must have toeboards at least 4 inches high to keep tools and debris from falling on them.
- The scaffold must be tied off, using a double wrap of No. 12 wire. Begin tying off as the scaffold is built. Improper tying off is one of the main reasons for scaffold accidents.

4. Do you know any of the requirements for platforms on a scaffold?

Still using the nearby scaffold, demonstrate the requirements below as the crew mentions them.

- They must be planked solid, without openings or gaps. (Standard planking is 2' x 10'.)
- They must be able to support the intended load.
- They must not slope or be slippery.
- If people are working overhead, platforms must be protected from objects falling from above.

5. Any special rules for rolling scaffolds?

- Always lock or block the wheels before anyone gets on.

- After you move a rolling scaffold, check and adjust it to make sure it's still plumb.
- Always get off before the scaffold is moved, even if only a few feet.
- Don't extend adjusting screws all the way.
- Use horizontal cross bracing to protect against skew.

6. Is it OK for heavy and light trades to work from the same scaffold?

Heavy and light trades have different requirements:

- Light trades may work from heavy trade scaffolds.
- Heavy trades may not work from light trade scaffolds.

7. What is the right way to get on and off a scaffold?

- Use a ladder to go up to the working platform and to get down.
- Make sure the ladder is secured to the scaffold.
- Never jump from a scaffold.

## **OSHA Regulations**

Explain: Most of the safety measures we've talked about are required by OSHA. We have to take these precautions, it's the law. I have a Checklist of the OSHA regulations on scaffolds. If you'd like to know more, see me after the meeting.

## **Company Rules**

Besides the OSHA regulations, we have some additional company rules about scaffolds. Discuss company rules:

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## **Comments from the Crew**

Ask the following: Do you have any other concerns about scaffolds? Do you see any problems on our job? Do you have any experience with scaffolds that might help us work safer on this job?

## **GENERAL SAFETY REVIEW**

This is a time to review all safety concerns, not just today's topic. Keep your notes on this page before, during and after the safety meeting.

Are you aware of any safety hazards from any other crews? Point out any hazards other crews are creating that this crew should know about. Tell the crew what you intend to do about those hazards.

Do we have any other safety business? Discuss any past issues or problems. Report any progress of investigations and action taken.

Have there been any accidents, near misses or complaints? Discuss any accidents, near misses, and complaints that have happened since the last safety meeting. Also recognize the safety contributions made by members of the crew.

Please remember, we want to hear from you about any health and safety issues that come up. If we don't know about problems, we can't take action to fix them.

## **ENDING THE MEETING**

Circulate Sign-Off Form.

Assign one or more crew member(s) to help with next safety meeting.

Refer action items for follow-up.

Do you have any Safety Recommendations?

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Do you have any Job Specific Topics you would like us to discuss?

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Have you reviewed the M.S.D.S Sheet for this safety topic?

Yes\_\_\_\_ No\_\_\_\_ N/A\_\_\_\_

**Comments**

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**SAFETY TALK REVIEW**

**Hazard Identification**

The company has a written Safety and Health Program that meets all OSHA requirements. It includes identification of potential scaffold safety hazards on the site, regular inspections, accident investigation, and correction of hazardous conditions.

**Permit**

An OSHA permit has been obtained for erection or dismantling of any scaffold or falsework more than 3 stories (36 feet) high.

**Use of Scaffolds**

1. No scaffolds are necessary on this job because all of the following are true: (1) the work is of a limited nature and short duration; (2) the fall distance is less than 15 feet; (3) adequate risk control exists; and (4) the work is under competent supervision.
2. No scaffolds are necessary on this job because all of the following are true: (1) the work is of short duration; (2) the work is on joists or similar members; and (3) the joists are centered 2 feet or closer with planking at least 12' wide.
3. Scaffolds are used. There is no permanent/solid construction at least 20' wide to stand on, and the work can't be done safely from ladders.

**The Qualified Person**

1. Scaffolds are erected and dismantled under the supervision of a qualified person.
2. The qualified person has a certificate of competence in scaffold erection, dismantling, and use, issued by a trade association or state approved apprenticeship program. The qualified person has been identified by the company based on other experience or training, and is familiar with the operations to be performed and the hazards involved.
3. Scaffolds are tagged to show that the qualified person has met his or her responsibilities.

### **Prohibited Scaffolds**

1. No lean-to or jack scaffolds.
2. No shore scaffolds.
3. No nailed brackets.
4. No loose tile, brick, or blocks used in place of a scaffold.
5. No stilts.

### **Design of the Scaffold**

1. Any wooden pole scaffold over 60 feet is designed by a registered civil engineer.
2. Single or tiered horse scaffolds are not over 10 feet high.
3. Any tube and coupler scaffold over 125 feet is designed by a registered civil engineer.
4. Any tubular welded frame scaffold over 125 feet is designated by a registered civil engineer.
5. If an engineer designed the scaffold, the drawings are on site during the erection of the scaffold.

### **Materials and Planking**

1. The scaffold uses stress grade lumber (or metal such as aluminum if structural integrity is maintained).
2. The wood is not cracked, warped, knotted, or defective.
3. All lumber is visually inspected for defects before and during use. No defective lumber is used.
4. The planking is at least 2' x 10' scaffold grade plank.
5. The 2' x 10' spans no more than 10 feet if the working load is 25 pounds per square foot (light trades). It spans no more than 8 feet if the load is 50 psf (medium trades), or 7 feet for 75 psf (heavy trades).
6. Manufactured planks longer than 10 feet are labeled with their maximum load.
7. The platforms are planked solid, except open area under the back railing.

8. Planks don't overhang their support by more than 18 inches unless access is prevented by a barrier.
9. Metal is not rusted or corroded.
10. Nails are not smaller than 8-penny.
11. Bolts are of a size and in sufficient number at each connection to develop the designed strength of the scaffold.

### **Extension Planking**

1. Has 5 fingers on each side and is at least 1' x 2-1/8' select straight-grained Douglas fir or equivalent.
2. Is not longer than 12½ feet, with overlap between the 2 halves not less than 1/8 the length of the extended planking. A substantial stop is provided to maintain this overlap.
3. Is not used as a platform on ladder-jack, suspended, or other unstable scaffolds.

### **Erection and Dismantling of the Scaffold**

1. Each level is maintained plumb.
2. Scaffolds are built from the bottom up and dismantled from the top down.
3. The scaffold is secured to the structure during erection. Ties to the structure are installed as soon as the scaffold is completed to each tie-in area.
4. The scaffold is secured to the structure during dismantling. Ties are removed only as the work progresses downward, unless other methods are used to prevent the scaffold from falling over.
5. The Scaffold is secured to the structure during dismantling. Ties are removed only as the work progresses downward, unless other methods are used to prevent the scaffold from falling over.
6. When dismantling, structural members are not removed below the level being dismantled.
7. If platforms are sloped, the slope is no more than 2 feet vertical to 10 feet horizontal. Platforms are also secured so they can't slip from supports.
8. When a platform turns a corner, planks are laid so as to avoid tipping.

### **Integrity of Scaffold**

1. Braces, uprights, or supports are not removed unless other members of equivalent strength are substituted.
2. The scaffold is not overloaded.
3. Planks are capable of sustaining the load.
4. The scaffold is tied off and secure.

## Access

1. There are safe, unblocked means of access to all scaffold platforms (such as a ladder, walkway, or stairs).
2. Ladders or stairways are located so as not to make the scaffold unstable.
3. If a ladder is used for access, it is securely attached to the scaffold and extends at least 3 feet above the platform level.

## Guardrails

1. There are top rails, between 42' and 45' high, for all open sides and ends that are 7½ feet high or more. Rails are constructed of 2' x 4', double 1' x 4', or equivalent.
2. There are midrails halfway between the work platform and the guardrail. Midrails are constructed of at least 1' x 6' or equivalent.
3. There are vertical posts spaced at 8 foot intervals or closer. Posts are constructed of 2' x 4' or equivalent.
4. Guardrails will withstand at least 13 pounds per linear foot.
5. There are toeboards at least 4 inches high on all open sides and ends of platforms if there are workers below. If material is piled high, there are also panels or screens.

## Working on the Completed Scaffold

1. No one is permitted to work on a scaffold in slippery conditions (unless a necessary part of work).
2. There is protection from overhead hazards.
3. Only one person at a time may work on extension planking over 3 feet high.

## Wooden Pole Scaffolds and Heavy Trades

1. A wooden pole scaffold meets the Cal/OSHA requirements below for heavy trades if it is used by bricklayers, stonemasons, concrete workers, or other trades using heavy tools or materials. 1641(a) The load on this scaffold, including workers, does not exceed 75 pounds per square foot.
2. Uprights are a minimum of 4' by 4' lumber for scaffolds of 20 feet or less. For scaffolds over 20 feet, uprights are at least 4' by 6'. Uprights are spaced no more than 7 feet apart in the direction parallel to the wall, and are secured against slippage. If the uprights are placed on the earth, they are secured to a wooden base at least 2' x 10' x 10'.
3. Platforms are not more than 4 feet wide, and are made from at least 2' x 10' lumber, laid closely together. They are within 14' of the face of the building 7' for bricklayers and stonemasons). Platforms are supported by

- ledgers and ribbons, nailed or bolted to the uprights. Planks are either butt-ended and nailed to the ledgers, or they overlap the ledgers at each end by at least 6'. A plank does not overlap an unsupported end of another plank.
4. Scaffolds are rigidly tied to the building or structure by means of a double looped No. 12 iron wire, or single looped No. 10 iron wire, or equivalent or stronger material. Ties are connected to the inside uprights and are not more than 15 feet apart horizontally or vertically.
  5. Scaffolds are diagonally braced with 1' by 6' boards, and are secured to prevent swaying, tipping, or collapsing.

### **Wooden Pole Scaffolds and Light Trades**

1. A wooden pole scaffold meets the OSHA requirements below for light trades if it is used only by carpenters, lathers, roofers, painters, plasterers, sheet metal workers, or others not using heavy tools or materials. 1640(a)] The load on this scaffold, including workers, does not exceed 25 pounds per square foot. 1504]
2. Uprights are a minimum of 2' by 4' lumber for scaffolds of 20 feet or less. For scaffolds over 20 feet, uprights are at least 3' by 4'. Uprights are spaced no more than 10' apart in the direction parallel to the wall, and are secured against slippage. The inner row of uprights may be replaced by attaching the scaffold to the permanent structure. If the uprights are placed on the earth, they are secured to a wooden base at least 2' x 10' x 10'. 1640(b) and (c)]
3. Platforms are at least 20' wide and are made from at least 2' x 10' lumber, laid closely together, or from 3/4' Douglas fir plywood. They are within 14' of the face of the building. Platforms are supported by ledgers and ribbons, nailed or bolted to the uprights. A plank does not overlap an unsupported end of another plank. 1640(b) and (c)]
4. Scaffolds are rigidly tied to the building or structure by means of a double looped No. 12 iron wire, or single looped No. 10 iron wire, or equivalent or stronger material. Ties are connected to the inside uprights and are not more than 20 feet apart horizontally or vertically.
5. Scaffolds are diagonally braced with 1' by 6' boards, and are secured to prevent swaying, tipping, or collapsing.