

SCAFFOLDING

Safety Guidelines

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WARNING!:

Serious injury or death can result from your failure to familiarize yourself, and comply with all applicable safety requirements of federal, state and local regulations and these safety guidelines before erecting, using or dismantling this scaffold.

ERECTION OF SCAFFOLDING

Prior to Erection-All Scaffold Assemblies

- Jobsite should be inspected to determine ground conditions or strength of supporting structure, and for proximity of electric power lines, overhead obstructions, wind conditions, the need for overhead protection or weather protection coverings. These conditions must be evaluated and adequately provided for.
- Frame spacing and mud sill size can only be determined after the total loads to be imposed on the scaffold and the strength of the supporting soil or structure are calculated and considered. This analysis must be done by a qualified person. Load carrying information on components are available from the manufacturer.
- Stationary scaffolds over 125 feet in height and rolling scaffolds over 60 feet in height must be designed by a professional engineer.
- All equipment must be inspected to see that it is in good condition and is serviceable. Damaged or deteriorated equipment should not be used.
- Wood plank should be inspected to see that it is graded for scaffold use, is sound and in good condition, straight grained, free from saw cuts, splits and holes. (Not all species and grades of lumber can be used as scaffold plank. Wood planks used for scaffolding must be specifically graded for scaffold use by an approved grading agency).
- The scaffold assembly must be designed to comply with local, State and Federal safety requirements.

Erection of Fixed Scaffold

- Scaffold must be erected, moved, or disassembled only under the supervision of qualified persons. Hard hats must be worn by all persons erecting, moving, dismantling or using scaffolding.
- Mud sills must be adequate size to distribute the loads on the scaffolding to the soil or supporting structure. Special care is needed when scaffolding is to be erected on fill or other soft ground or on frozen ground. Sills should be level and in full contact with the supporting surface.
- Base plates or screw jacks with base plates must be in firm contact with both the sills and the legs of the scaffolding. Compensate for uneven ground with screw jacks with base plates. DO NOT USE unstable objects such as blocks, loose bricks, etc.
- Plumb and level scaffold until connections can be made with ease. Do not force members to fit. Be sure scaffold stays level and plumb as erection progresses.
- Ties, guys, bracing and/or outriggers may be needed to assure a safe stable scaffold assembly. The height of the scaffold in relation to the minimum base width, wind loads, the use of brackets or cantilevered platforms and imposed scaffold loads determines the need for stability bracing. The following general guides are minimum requirements.

- Federal OSHA requires that scaffolding must always be secure when the height of the scaffold exceeds for (4) times the minimum base width. (California requires stability bracing when the scaffold height exceeds three (3) times the minimum base width).

- The bottom tie must be placed no higher than four (4) times the minimum base width and every 26 feet vertically thereafter. Ties should be placed as close to the top of the scaffold as possible and, in no case, less than four (4) times (three (3) times in California) the minimum base width of the scaffold from the top.

- Vertical ties should be placed at the ends of scaffold runs and at no more than 30 feet horizontal intervals in between.

- Ties should be installed as the erection progresses and not removed until the scaffold is dismantled to that height.

- Side brackets, cantilevered platforms, pulleys or hoist arms and wind conditions introduce overturning and uplift forces that must be considered and compensated for. These assemblies may require additional bracing, tying or guying.

- Circular scaffolds erected completely around or within a structure may be restrained from tipping by the use of "stand off" bracing members.

- Each leg of a free standing tower must be guyed at the intervals outlined above or otherwise restrained to prevent tipping or overturning.

- Work platforms must be fully planked either with scaffold graded solid sawn or laminated plank, in good sound condition, or with fabricated platforms in good condition.
 - Each plank must overlap the support by a minimum of 6 inches or be cleated, i.e. 8 foot planks on 7 foot spans must be cleated.
 - Plank should not extend beyond the support by more than 18 inches. Such overhangs should be separated from the work platform by guard-railing so that they cannot be walked on.
 - Plank on continuous runs must extend over the supports and overlap each other by at least 12 inches.
 - Spans of full thickness, 2 inch by 10 inch scaffold grade planks, should never exceed 10 feet. Loads on plank should be evenly distributed and not exceed the allowable loads for the type of plank being used. No more than one person should stand on an individual plank at one time.
 - Planks and/or platforms should be secured to scaffolding when necessary to prevent uplift or displacement because of high winds or other job conditions.
- Guardrails must be used on all open sides and ends of scaffold platforms. Both top and midrails are required. Local codes specify the minimum heights where guardrails are required, however, use at lower heights if falls can cause injury.
- Toe boards are required whenever people are required to work or pass under or around the scaffold platform.
- Access must be provided to all work platforms. If it is not available from the structure, access ladders, frames with built-in ladders, or stairways must be provided. When frames with built-in ladders are used, cleated plank or fabricated plank must be used at platform levels to minimize or eliminate platform overhang. Access ladders must extend at least three (3) feet above platforms.
- Side and end brackets are designed to support people only. Materials should never be placed on cantilevered platforms unless the assembly has been designed to support material loads by a qualified person. (These types of platforms cause overturning and uplift forces which must be compensated for. All frames should be fastened together to prevent uplift an overturning moment compensated for with counterweights or adequate ties).
- Putlogs must never be used for the storage of materials. They are designed for personnel use only. Special care should be taken when putlogs are used.
 - Putlogs should overhang the support points by at least 6 inches. Use putlogs hangers with bolts fastened to support putlogs on frames.

- Putlog spans of greater than 12 feet require knee bracing and lateral support.
- Putlogs used as side or end brackets need special bracing.
- Bridging between towers should not be done with plank or stages unless the assembly is designed by a qualified person and overturning moments have been compensated for.
- Scaffold should not be used as material hoist towers or for mounting derricks unless the assembly is designed by a qualified person.
- Check the erected assembly before use. A qualified person should thoroughly inspect the completed assembly to see that it complies with all safety codes, that nuts and bolts are tightened, that it is level and plumb, that work platforms are fully planked, that guardrails are in place and safe access is provided.

Erection of Rolling Scaffolds

- Height of the tower must not exceed four (4) times the minimum base dimension (three (3) times in California). Outrigger frames or outrigger units on both sides of the tower may be used to increase base width dimension when necessary.
- All casters must be secured to frame legs or screw jacks with a nut and bolt or other secure means. Total weight of tower should not exceed the capacity of the casters.
- Screw jacks must not be extended more than 12 inches above caster base. Tower must be kept level and plumb at all times.
- Horizontal/diagonal bracing must be used at the bottom and top of tower and at intermediate levels of 20 feet. Fabricated planks with hooks may replace the top diagonal brace.
 - All frames must be fully cross-braced.
 - Only prefabricated plank or cleated plank should be used.
- Casters must be locked at all times the scaffold is not being moved.

USE OF SCAFFOLDS

All Scaffolds

- Inspect the scaffold assembly before each use to see that it is assembled correctly, that it is level and plumb, base plates are in firm contact with sills, bracing is in place and connected, platforms are fully planked, guardrails in place, safe access is provided, that it is properly tied and/or guyed and that there are no overhead obstructions or electric lines within 12 feet of the scaffold assembly.
- Use only the safe means of access that is provided. Do not climb bracing or frames not specifically designed for climbing. If such access is not provided, insist that it be provided.

- Climb Safely
 - Face the rungs as you climb up or down.
 - Use both hands.
 - Do not try to carry materials while you climb.
 - Be sure of your footing and balance before you let go with your hands. Keep one hand firmly on frame or ladder at all times.
- Do not work on slippery rungs to avoid slipping.
- Do not overload platforms with materials.
- Working heights should not be extended by planking guardrails or by use of boxes or ladders on scaffold platforms.
- Do not remove any component of a completed scaffold assembly except under the supervision of a qualified person. Any component that has been removed should be immediately replaced.

Rolling Towers All of the above precautions plus:

- Do not ride manually propelled rolling scaffold. No personnel should be on the tower while it is being moved.
- Lock all casters before getting on the tower.
- Work only within the platform area: do not try to extend overhead work area by reaching out over guard railing.
- Do not bridge between two rolling towers with plank or stages.
- Secure all materials before moving scaffolds.
- Be sure floor surface is clear of obstructions or holes before moving scaffold.
- Be sure there are no overhead obstructions or electric power lines in the path of rolling scaffold.
- Rolling towers must only be used on level surfaces.
- Move rolling towers by pushing at the base level only. Do not pull from the top.