

POLICY STATEMENT

This policy is established to ensure that no employee is exposed to hazards while doing work requiring the use of a swing stage (or two-point adjustable suspension) scaffold. The following engineering controls, training requirements, and safe work practices are enforced to protect our employees from hazards associated with the erecting, use and dismantling of scaffolds.

RESPONSIBILITIES

Swing stage scaffold safety is a cooperative effort between this company and its employees.

Employer Responsibilities

It is the responsibility of the company and management to:

- Ensure employees are trained appropriately to their level of responsibility regarding scaffolds;
- Acquire appropriate scaffolding that for the job to be performed;
- Ensure all equipment, including scaffolds, is safe for use by employees;
- Ensure there is at least one qualified person at every job that requires scaffolding;

Qualified Person Responsibilities

It is the responsibility of the qualified person to:

- Be competent in fall protection;
- Reviews work plans to determine if scaffolds are necessary;
- Design scaffolds to the required specifications;
- Ensures scaffolding onsite meets requirements of the job and all safety guidelines; and
- Training employees who perform work on the scaffold to recognize hazards specific to that type of hazard and understand the procedures necessary to control those hazards.

Competent Person

It is the responsibility of the competent person to:

- Take prompt measures to eliminate conditions that may pose harm to employees;
- Ensure scaffold components from different manufacturers do not intermix;
- Evaluate direct connections and to confirm, supporting surfaces support the loads to be imposed on them.
- Inspect all suspension scaffold ropes before each shift and after anything that might affect a rope's integrity; and
- Supervise the erection, moving, dismantling and altering of scaffolds.

Employee Responsibilities

Employees are expected to:

- Complete all requisite training before using scaffolds;
- Follow company safety policy and best industry practices;
- Perform pre-use inspection before accessing the scaffold; and
- Report any unsafe condition to the appropriately qualified person.

TRAINING

Every employee will be provided training on [this topic]. This training will be provided at no cost to the employee during working hours.

The training program will use only training material that is appropriate in content and vocabulary to the educational level, literacy, and language of employees.

Training Components

The individual overseeing this policy will ensure that employees who are involved in activities such as erecting, dismantling, repairing, and inspecting scaffolds will be trained by a competent person to recognize any hazards associated with those activities. Training must include:

- 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;
- And
- Any other pertinent requirements.

Employees who perform work while on a scaffold must be trained by a qualified person to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control those hazards. Training must include:

- The nature of electrical hazards, fall hazards, and falling object hazards in the work area;
- The correct procedures for dealing with those hazards;
- The proper use of the scaffold, and the proper handling of materials on the scaffold;
- The maximum intended load and the load-carrying capacity of the scaffold; and
- Any other pertinent requirements.

Retraining

Employers must retrain each employee when they have reason to believe that the employee lacks the skill or understanding to safely erect, use, or dismantle a scaffold. Such retraining is required in at least the following situations:

- Where changes at the worksite present a hazard for which an employee has not previously been trained;
- Where changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard for which an employee has not previously been trained; and
- Where inadequacies in an affected employee's work indicate that the employee has not retained the necessary proficiency.

Training Records

Training records will include the following information:

- The dates of the training sessions;
- The contents or a summary of the training sessions;
- The names and qualifications of persons conducting the training; and
- The names and job titles of all persons attending the training sessions.

Employee training records will be maintained for 3 years from the date on which the training occurred.

POLICY

Two-point adjustable suspension scaffolds are also known as swing-stage scaffolds. Hung by ropes or cables connected to stirrups at each end of the platform, they are typically used by window washers on skyscrapers, but play a prominent role in high-rise construction as well. Note: Except where indicated, these requirements also apply to multi-level, single-point adjustable, multi-point adjustable, interior hung, needle beam, catenary, and float (ship) scaffolds.

ANCHORAGE

The safe use of a suspended scaffold begins with secure anchorage. The weight of the scaffold and its occupants must be supported by both the structure to which it is attached and by each of the scaffold components that make up the anchorage system.

Tiebacks

Tiebacks must be secured to a structurally sound anchorage on the building or structure, which may include structural members, but not vents, electrical conduit, or standpipes and other piping systems.

Tiebacks must be installed perpendicular to the face of the building or structure or opposing angle tiebacks must be installed. Single tiebacks installed at an angle are prohibited.

Tiebacks must be equivalent in strength to the suspension ropes and hoisting rope.

Counterweights

Suspended scaffold outrigger beams must be stabilized by:

- Counterweights, or
- Bolts or other direct connections to the floor or deck.

Counterweights used to balance adjustable suspension scaffolds must be capable of resisting:

- At least 4 times the tipping moment imposed by the scaffold when it is operating at the rated load of the hoist, or
- A minimum of 1½ times the tipping moment imposed by the scaffold when it is operating at the stall load of the hoist, whichever is greater.

Only items specifically designed as counterweights may be used to counterweight scaffold systems.

Masonry units, rolls of roofing felt, and other similar construction materials must not be used as counterweights.

Counterweights must not be made of flowable materials such as sand, gravel, and similar materials that can be easily dislocated.

Counterweights must be secured by mechanical means to the outrigger beams to prevent accidental displacement.

Counterweights must not be removed from an outrigger beam until the scaffold is disassembled.

Direct Connections

Suspended scaffold outrigger beams must be stabilized by:

- Bolts or other direct connections to the floor or deck, or
- Counterweights

Direct connections to roofs and floors must be capable of resisting:

- At least 4 times the tipping moment imposed by the scaffold when it is operating at the rated load of the hoist, or
- A minimum of 1½ times the tipping moment imposed by the scaffold when it is operating at the stall load of the hoist, whichever is greater.

SUPPORT

Adjustable suspension scaffolds are designed to be raised and lowered while occupied by workers and materials, and must be capable of bearing their load whether stationary or in motion.

Capacity

Scaffolds and scaffold components must be capable of supporting, without failure, their own weight and at least 4 times their maximum intended load.

Each suspension rope, including connecting hardware, must be capable of supporting, without failure; at least 6 times the maximum intended load applied to that rope while the scaffold is operating at the greater of either:

- The rated load of the hoist, or
- 2 times the stall load of the hoist.

All suspension scaffold support devices, such as outrigger beams, cornice hooks, and parapet clamps, must:

- Rest on surfaces capable of supporting at least 4 times the load imposed on them by the scaffold operating at the greater of either:
 - The rated load of the hoist, or
 - 1½ times the stall capacity of the hoist
- Be supported by bearing blocks
- Be secured against movement by tiebacks installed at right angles to the face of the building or structure, or by opposing angle tiebacks installed and secured to a structurally sound point of anchorage (structurally sound points of anchorage include structural members, but not vents, electrical conduit, or standpipes and other piping systems).

No more than two employees should occupy suspension scaffolds designed for a working load of 500 pounds (non-mandatory).

No more than three employees should occupy suspension scaffolds designed for a working load of 750 pounds (non-mandatory).

Scaffolds must be altered only under the supervision and direction of a competent person.

Components

Scaffold components manufactured by different manufacturers must not be intermixed, unless they fit together without being forced, and the scaffold's structural integrity is maintained.

Scaffold components manufactured by different manufacturers are not allowed to be modified to make them fit together, unless a competent person determines that the resulting scaffold is structurally sound.

Scaffold components made of dissimilar metals must not be used together unless a competent person has determined that galvanic action (rust) will not reduce the strength of any component below OSHA standards.

Scaffold support devices such as cornice hooks, roof hooks, roof irons, parapet clamps, or similar devices must be made of steel, wrought iron, or materials of equivalent strength.

Outrigger Beams

Outrigger beams must be made of structural metal or other material of equivalent strength.

Outrigger beams must be restrained to prevent movement.

The inboard ends of outrigger beams must be stabilized by bolts or other direct connections to the floor or roof deck, or by counterweights.

Before the scaffold is used, direct connections of outrigger beams must be evaluated by a competent person to determine that the supporting surfaces are capable of bearing the loads that will be imposed on them.

When outrigger beams are not stabilized by bolts or other direct connections to the floor or roof deck, they must instead be secured by tiebacks.

Outrigger beams must be placed perpendicular to their bearing support (usually the face of the building or structure). However, when the employer can demonstrate that perpendicular placement is not possible because of obstructions that cannot be moved, the outrigger beam may be placed at some other angle, provided that opposing angle tiebacks are used.

Outrigger beams must be:

- Provided with stop bolts or shackles at both ends;
- Securely fastened together with the flanges turned out when channel iron beams are used instead of I-beams;
- Installed with all bearing supports perpendicular to the beam center line;
- Set and maintained with the web in a vertical position;
- Attached to the scaffold ropes by a shackle or clevis placed directly over the stirrup.

Suspension Ropes

Suspension ropes supporting adjustable suspension scaffolds must have a diameter large enough to permit proper functioning of brake and hoist mechanisms.

The use of repaired wire rope as suspension rope is prohibited.

Wire suspension ropes must not be joined together except through the use of eye splice thimbles connected with shackles or coverplates and bolts.

The load end of wire suspension ropes must be equipped with proper-size thimbles, and secured by eyesplicing or equivalent means.

Ropes must be inspected for defects by a competent person prior to each workshift, and after every occurrence which could affect a rope's integrity.

Ropes are to be replaced when any of the following conditions exist:

- Any physical damage which impairs the function and strength of the rope.
- Kinks that might impair the tracking or wrapping of the rope around the drum or sheave of the hoist.
- Six randomly distributed wires are broken in one rope lay, or three broken wires in one strand in one rope lay.
- Loss of more than one-third of the original diameter of the outside wires due to abrasion, corrosion, scrubbing, flattening, or peening.
- Heat damage caused by a torch, or any damage caused by contact with electrical wires.
- Evidence that the secondary brake has been activated during an overspeed condition and has engaged the suspension rope.

Swaged attachments or spliced eyes on wire suspension ropes may not be used unless they are made by the manufacturer or a qualified person.

When wire rope clips are used on suspension scaffolds:

- There must be a minimum of 3 clips installed, with the clips a minimum of 6 rope diameters apart;
- Clips must be installed according to the manufacturer's recommendations;

- Clips must be retightened to the manufacturer's recommendations after the initial loading;
- Clips are to be inspected and retightened to the manufacturer's recommendations at the start of each subsequent workshift;
- U-bolt clips may not be used at the point of suspension for any scaffold hoist;
- When U-bolt clips are used, the U-bolt must be placed over the dead end of the rope, and the saddle must be placed over the live end of the rope.

Suspension ropes are to be shielded from heat-producing processes. When acids or other corrosive substances are used on a scaffold, the ropes must be shielded, treated to protect against the corrosive substances, or must be of a material that will not be damaged by the substances.

Remember: Analysis of Bureau of Labor Statistics data for suspended scaffold fatalities from 1992-99 found that over 20 percent of fall deaths were due to suspension ropes breaking. This underlines the importance of inspecting ropes before every workshift.

Hoists

The stall load of any scaffold hoist must not exceed 3 times its rated load.

When winding drum hoists are used and the scaffold is extended to its lowest point of travel, there must be enough rope to still wrap four times around the drum.

When other types of hoists are used, the suspension ropes must be long enough to allow the scaffold to travel to the level below without the rope end passing through the hoist, or else the rope end must be provided with means to prevent the end from passing through the hoist.

Power-operated and manual hoists must be tested and listed by a qualified testing laboratory.

Gasoline-powered hoists may not be used on suspension scaffolds.

Gears and brakes of power-operated hoists used on suspension scaffolds must be enclosed.

In addition to the normal operating brake, both power-operated and manual hoists must have a braking device or locking pawl which engages automatically when a hoist experiences:

- An instantaneous change in momentum; or
- An accelerated overspeed episode.

Manually operated hoists must require a positive crank force to descend.

Remember: Many scaffold failures occur early in the morning, after condensation has collected on the wire ropes overnight. The preferred industry practice at the beginning of a shift is to raise the scaffold 3 feet, hit the brakes, then lower the scaffold and hit the brakes again. This ensures that moisture on the wire rope will not allow it to slip through the braking mechanism, causing the scaffold to fall.

If a suspended scaffold becomes stuck while traveling, the hoist motor may strain and cause additional load on tiebacks, counterweights, or even the structure itself. Should these fail, the result may be a fatal fall.

Access

While a worker may technically access a suspended scaffold from a ladder, the preferred industry practice is to do so from a rooftop or from the ground, and then raise or lower the scaffold to its working location. Ladder access is addressed in 1926.451(e)

Employees must be able to safely access any level of a scaffold that is 2 feet above or below an access point.

Remember: When a suspended scaffold sits overnight, water condensation may form on the wire ropes, making them slip through the braking device and cause the scaffold to fall. Before allowing workers onto the platform, a good safety practice is to raise the scaffold 3 feet, then lower it and hit the brakes to clear the moisture.

Direct Access

Direct access to or from another surface is permitted only when the scaffold is not more than 14 inches horizontally and not more than 24 inches vertically from the other surface.

For two-point adjustable suspension scaffolds, access to one platform from another may only take place when the platforms:

- Are the same height,
- Are abutting, and
- Have walk-through stirrups specifically designed for that purpose.

FALL PROTECTION

The number one scaffold hazard is worker falls. Fall protection consists of either personal fall arrest systems or guardrail systems, and must be provided on any scaffold 10 feet or more above a lower level (two-point scaffolds require both PFAS and guardrail systems). This is especially critical with suspended scaffolds, because they often are operated at extreme elevations.

Each employee on a scaffold more than 10 feet above a lower level must be protected from falling to that lower level.

Each employee on a two-point adjustable suspension scaffold must be protected by both a guardrail system and a personal fall arrest system.

Fall-Arrest Systems

In addition to meeting the requirements, personal fall-arrest systems used on scaffolds are to be attached by lanyard to a vertical lifeline, horizontal lifeline, or scaffold structural member.

Note: Vertical lifelines may not be used on two-point adjustable suspension scaffolds that have overhead components such as overhead protection or additional platform levels.

- When vertical lifelines are used, they must be fastened to a fixed safe point of anchorage, independent of the scaffold, and be protected from sharp edges and abrasion. Safe points of anchorage include structural members of buildings, but not standpipes, vents, electrical conduit, etc., which may give way under the force of a fall.
- It is dangerous and therefore impermissible for two or more vertical lifelines to be attached to each other, or to the same point of anchorage.
- When horizontal lifelines are used, they are to be secured to two or more structural members of the scaffold.
- When lanyards are connected to horizontal lifelines or structural members, the scaffold must have additional independent support lines and automatic locking devices capable of stopping the fall of the scaffold in case one or both of the suspension ropes fail. These independent support lines must be equal in number and strength to the suspension ropes.
- On suspended scaffolds with horizontal lifelines that may become vertical lifelines, the devices used to connect to the horizontal lifeline must be capable of locking in both directions.

Remember: Almost all incidents that involve scaffold failure would not lead to fatality or serious injury if proper personal fall-arrest systems were in use. Hence, such incidents almost always involve two violations:

- One that causes the scaffold to fall, and
- The other when workers fail to use (or their employers fail to provide) appropriate safety harnesses, lanyards, lifelines, etc.

Guardrail Systems

Guardrail systems must be installed along all open sides and ends of platforms, and must be in place before the scaffold is released for use by employees other than erection/dismantling crews.

Each toprail or equivalent member of a guardrail system must be able to withstand a force of at least 200 pounds applied in any downward or horizontal direction, at any point along its top edge.

- The top edge height of toprails on supported scaffolds must be between 36 inches and 45 inches. When conditions warrant, the height of the top edge may exceed the 45-inch height, provided the guardrail system meets all other criteria. (Note: The minimum top edge height on scaffolds manufactured or placed in service after January 1, 2000 is 38 inches).

Midrails, screens, mesh, intermediate vertical members, solid panels, etc., must be able to withstand a force of at least 150 pounds applied in any downward or horizontal direction, at any point along the midrail or other member.

- When midrails are used, they must be installed at a height approximately midway between the top edge of the guardrail system and the platform surface.
- When screens and mesh are used, they must extend from the top edge of the guardrail system to the scaffold platform, and along the entire opening between the supports.
- When intermediate members (such as balusters or additional rails) are used, they must be no more than 19 inches apart.

Guardrails must be surfaced to prevent punctures or lacerations to employees, and to prevent snagging of clothing, which may cause employees to lose their balance.

Ends of rails may not extend beyond their terminal posts, unless they do not constitute a projection hazard to employees.

In lieu of guardrails, crossbracing may serve as a toprail or midrail, provided the crossing point is:

- Between 20 and 30 inches above the work platform for a midrail, or
- Between 38 and 48 inches above the work platform for a toprail.

For other scaffolding guardrail requirements, see your manual chapter on scaffolding.

Erectors and Dismantlers

The fall protection requirements for employees installing suspension scaffold support systems on floors, roofs, and other elevated surfaces, are described in 1926 Subpart M, the Fall Protection standard.

Competent Person

The employer must designate a competent person, who would be responsible for determining the feasibility and safety of providing fall protection for employees erecting or dismantling supported scaffolds.

PLATFORM

Because the platform is the work area of a suspended scaffold, an inspection requires safety checks of both the platform structure and how the platform is used by the workers.

Decking

Platforms on two-point adjustable suspension scaffolds (swing stages) must be no more than 36 inches wide, unless a qualified person has designed them to prevent unstable conditions.

The platform must be securely fastened to hangers (stirrups) by U-bolts, or by other means that make it capable of supporting its own weight and at least 4 times its maximum intended load.

Platforms are to be ladder-type, plank-type, beam-type, or light metal-type.

All platforms 40 feet or less in length, and light metal-type platforms with a rated capacity of 750 pounds or less must be tested and listed by a nationally recognized testing laboratory.

Scaffold platforms and walkways must be at least 18 inches wide, unless they are used in areas that the employer can demonstrate are so narrow that they must be less than 18 inches wide. In such cases, the platforms must be as wide as feasible, and fall protection must be provided.

Nothing that could cause a slip, trip or fall (i.e. tools, scrap material, chemicals, snow, ice, etc.) is allowed to accumulate on the platform.

Devices whose sole function is to provide emergency escape and rescue may not be used as working platforms. This does not preclude the use of systems designed to function as both suspension scaffolds and emergency systems.

Makeshift devices, such as boxes and barrels, may not be used on top of scaffold platforms to increase the height of the working level.

Ladders may not be used on scaffolds to increase the height of the working level, except on large-area scaffolds where employees have met the following criteria:

- When the ladder is placed against a structure which is not part of the scaffold, the scaffold must be secured against the sideways thrust exerted by the ladder;
- The platform units must be secured to the scaffold to prevent their movement;
- The ladder legs must be on the same platform, or other means must be provided to stabilize the ladder against unequal platform deflection;
- The ladder legs must be secured to prevent them from slipping or being pushed off the platform.

Non-mandatory guidelines for two-point suspended platforms:

- Ladder-type platforms must have:
 - Side stringers of clear straight-grained spruce, tied together with tie rods at least $\frac{1}{4}$ inch in diameter, passing through the stringers and riveted up tight against washers on both ends;
 - Straight-grained oak, ash or hickory rungs at least $1\frac{7}{8}$ inches in diameter, with $\frac{7}{8}$ inch tenons mortised into the side stringers at least $\frac{7}{8}$ inch;
 - Flooring strips spaced apart no more than $\frac{5}{8}$ inch, (side rails may be up to 1 inch apart).
 - See the table for ladder-type platform specifications.
- Plank-type platforms must have:
 - Unspliced planks no smaller than nominal 2 x 8 inches, connected on the underside with cleats beginning 6 inches from each end and spaced every 4 feet or less;
 - A bar or other means securely fastened to each end of the platform to prevent it slipping off the hanger; and
 - No more than a 10 foot span between hangers.
- Beam-type platforms must have:
 - Side stringers of lumber no smaller than 2 x 6 inches set on edge;

- Floor boards laid flat and spaced no more than ½ inch apart, set snugly into the upper edge of the stringers, and securely nailed to 2 x 6-inch cross beams at intervals of no less than 4 feet; and
- No more than a 12 foot span between hangers.

Schedule for Ladder-Type Platforms						
Length of Platform		12 feet	14 & 16 feet	18 & 20 feet	22 & 24 feet	28 & 30 feet
Side Stringers, minimum cross section (finished sizes)	At ends	1¾ X 2¾ inches	1¾ X 2¾ inches	1¾ X 3 inches	1¾ X 3 inches	1¾ X 3½ inches
	At middle	1¾ X 3¾ inches	1¾ X 3¾ inches	1¾ X 4 inches	1¾ X 4¼ inches	1¾ X 5 inches
Reinforcing Strip (minimum)		A ⅝ X ⅞ inch steel reinforcing strip shall be attached to the side or underside, full length.				
Rungs		Rungs must be 1⅝ inch minimum diameter with at least ⅞ inch in diameter tenons, and the maximum spacing must be 12 inches to center.				
Tie rods	Number (minimum)	3	4	4	5	6
	Diameter (minimum)	¼ inch	¼ inch	¼ inch	¼ inch	¼ inch
Flooring min. finished size		½ X 2¾ inches	½ X 2¾ inches	½ X 2¾ inches	½ X 2¾ inches	½ X 2¾ inches

Working Distance

For most activities, there must be no more than a 14-inch gap between the scaffold platform and the structure being worked on. For lathing and plastering, a gap of 18 inches is permitted.

Overlap

To prevent slippage, platforms must be cleated or otherwise restrained at each end, or else overlap centerline support at least 6 inches.

Unless it is designed and installed to support employees and materials without tipping, or has guardrails that block employee access, each end of a platform may not extend over its support more than 12 inches (for platforms 10 feet or shorter in length) or more than 18 inches (for platforms more than 10 feet long).

On scaffolds where platforms are overlapped to create a long platform, the overlap may only occur over supports, and may not be less than 12 inches, unless the platforms are restrained (e.g., nailed together) to prevent movement.

On scaffolds where platforms are abutted to create a long platform, each abutted end must rest on a separate support surface (this does not preclude the use of shared support members such as "T" sections, hook-on platforms that rest on common supports, etc.).

Brackets

When brackets are used to support cantilevered platforms, they must:

- Be seated with side-brackets parallel to the frames, and end-brackets at 90 degrees to the frames.
- Be used only to support personnel, unless the scaffold has been designed and built to withstand the tipping forces caused by other loads.

Capacity

Scaffold platforms must be able to support their own weight, plus four times the maximum intended load.

Do not load the scaffold or any component parts beyond their maximum capacity (their own weight and 4:1 the maximum intended load).

A scaffold can be overloaded by:

- Too many people being on the platform,
- Too much material being stored on the platform, or
- Point loading, or concentrating too much of the load in one area.

Platforms must not deflect more than 1/60 of the span when loaded.

Falling Object Protection

There are two kinds of falling object hazards associated with scaffolds. One hazard concerns the employees on the scaffold itself; the other concerns employees who work in or enter the area below the scaffold.

Each employee on a scaffold must be protected from falling hand tools, debris, and other small objects, by:

- Hardhats;
- Toeboards, screens, or guardrail systems;
- Debris nets or canopy structures that contain or deflect falling objects; and
- Placement of potential falling objects away from the edge of the surface from which they may fall.

Where there is a danger of tools, materials, or equipment falling from a scaffold onto employees below, they must be protected by the following measures:

- The area below the scaffold must be barricaded so employees are not permitted to enter; or
- Toeboards must be installed along the edge of platforms more than 10 feet above lower levels.
- Where tools, materials, or equipment are piled to a height higher than the top edge of the toeboard, they should be prevented from falling by paneling or screening extending from the toeboard to the top of the guardrail; or

- A guardrail system must be installed with openings small enough to contain the objects;
or
- A canopy structure, debris net, or catch platform strong enough to withstand the impact of the potential falling objects must be erected over the employees.

When toeboards are used for falling object protection, they must be:

- Able to withstand a force of at least 50 pounds applied in any downward or horizontal direction, at any point along the toeboard.
- At least 3½ inches high from the top edge to the level of the walking/working surface.
- Securely fastened in place at the outermost edge of the platform, and not have more than ¼-inch clearance above the walking/working surface.
- Solid, or with openings not over 1 inch.

STABILITY

Even if a suspended scaffold has been assembled in compliance with every applicable standard, employers and workers must continue to exercise caution and use sound work practices to assure their safety.

Extreme weather, excessive loads, or damage to structural components can all affect a scaffold's stability.

Tying

Two-point suspension scaffolds must be tied or otherwise secured to prevent them from swaying, as determined to be necessary by a competent person.

Window cleaners' anchors may not be used for this purpose.

In addition to direct connections to buildings (except window cleaners' anchors), acceptable ways to prevent scaffold sway include:

- Angulated roping, and
- Static lines.

Loading

No more than two employees should occupy suspension scaffolds designed for a working load of 500 pounds (non-mandatory).

No more than three employees should occupy suspension scaffolds designed for a working load of 750 pounds (non-mandatory).

Inspection

Scaffolds and scaffold components must be inspected for visible defects by a competent person before each shift, and after each occurrence that could affect a scaffold's integrity (such as being struck by a crane).

Any part of a scaffold that has been damaged or weakened so that it no longer meets OSHA strength requirements must either be: repaired, replaced, braced, or removed from service.

Moving Scaffolds

Scaffolds must not be moved horizontally while employees are on them, unless they have been designed for that purpose by a registered professional engineer.

Two-point suspension scaffolds must not be bridged or otherwise connected one to another during raising and lowering operations unless the bridge connections are articulated (attached), and the hoists properly sized.

Weather

Employees are not permitted to work on or from a scaffold during storms or high wind, unless a competent person has determined that it is safe, and those employees are protected by:

- Personal fall-arrest systems, or
- Wind screens (when windscreens are used the scaffold must be secured against the anticipated wind forces).

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

ELECTRICAL HAZARDS

Suspended scaffolds are often made of metal and sometimes used in close proximity to overhead power lines. These factors introduce the risk of electrocution. However, proper clearance and maintenance reduce this risk.

Overhead Power Lines

Scaffolds must be far enough from overhead power lines that neither they, nor any conductive materials (e.g. building materials, paint roller extensions, scaffold components) that may be handled on them, come closer than 10 feet to the power line. **Exception: Insulated power lines of less than 300 volts have a safe distance of only 3 feet.**

Remember: Because it may be difficult to determine if a power line is insulated, or what its exact voltage is, the 10 ft. rule should always be applied.

Scaffolds may be closer to overhead power lines than specified above if such proximity is necessary for the type of work being done, and if the power company or electrical system operator has been notified and has either:

- De-energized the lines;
- Relocated the lines; or
- Installed protective coverings to prevent accidental contact with the lines.

Welding

When welding is being performed from suspended scaffolds, the following precautions must be taken, as they apply, to reduce the possibility of welding current arcing through the suspension wire ropes:

- An insulated thimble must be used to attach each suspension wire rope to its hanging support (such as cornice hook or outrigger). Excess suspension wire rope and any additional independent lines from grounding must also be insulated;
- The suspension wire rope must be covered with insulating material at least 4 feet (1.2 m) above the hoist;
- If there is a tail line below the hoist, it must be insulated to prevent contact with the platform. The portion of the tail line that hangs free below the scaffold must be guided or retained, or both, so that it does not become grounded;
- Each hoist must be covered with insulated protective covers;
- In addition to a work lead attachment required by the welding process, a grounding conductor must be connected from the scaffold to the structure. The size of this conductor must be at least the size of the welding process work lead, and this conductor must not be in series with the welding process or the work piece;
- An active welding rod or uninsulated welding lead must not be allowed to contact the scaffold or its suspension system.
- If the scaffold grounding lead is disconnected at any time, the welding machine must be shut off.

Portable Electrical Tools

Because metal frame scaffolds are conductive, power tools, cords, etc. that suffers insulation failure can electrify the entire scaffold. This poses a risk of electrocution not just to the worker holding the tool, but to everyone who contacts the scaffold. Therefore, all portable electric equipment must be protected by GFCIs (ground-fault circuit interrupters) or an AEGCP (assured equipment grounding conductor program).

Remember: Often, a worker who is shocked survives the current, only to lose his balance and be killed in a fall. This is one more reason for always using fall protection.

PERSONNEL TRAINING AND COMPETENT PERSONS

Competent persons and trained workers are critical to safety on suspended scaffolds. Therefore, assessing personnel abilities is a vital part of scaffold design, erection, maintenance, and use, and should not be overlooked in scaffold inspections.

Design and Erection

Scaffolds must be designed by a qualified person, and be constructed and loaded in accordance with that design.

Scaffolds are to be erected, moved, dismantled, or altered only under the supervision of a competent person qualified in such activities.



