



FALL PROTECTION PROGRAM

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Fall Protection

It our policy to take all practical measures possible to prevent employees from being injured by falls from heights. We will take necessary steps to eliminate, prevent, and control fall hazards. First consideration will be given to the elimination of fall hazards.

If a fall hazard cannot be eliminated, effective fall protection will be planned, implemented, and monitored to control the risks of injury due to falling. All personnel exposed to potential falls from heights will be trained to minimize the exposures. Fall protection equipment will be provided and its use required by all employees.

Fall Protection Is Required

Fall protection is required when working where there is a hazard of falling more than 6 feet from the perimeter of a structure, unprotected sides and edges, leading edges, through shaft ways and openings, sloped roof surfaces steeper than 7:12, or other sloped surfaces steeper than 40 degrees not otherwise adequately protected and boom lifts.

Fall Protection Types

One of the following types of fall protection systems will be used when our employees are exposed to fall hazards in excess of 6' (feet):

- Eliminate the fall hazard
- Standard guardrails, cables or floor hole covers
- Personal fall arrest system
- Positioning devices
- Fall restraint systems

Standard Guardrails, Safety Cables, or Covers

These are the easiest and most cost effective methods of providing fall protection and have a very high success rate. Standard guardrails, safety cables, floor hole and sky light covers are our preferred means of fall protection on job sites. The following rules will be followed when using them:

- Railings shall be constructed of wood, or in an equally substantial manner from other materials. It will consist of a top rail not less than 42 inches or more than 45 inches in height measured from the upper surface of the top rail to the floor, platform, runway or ramp level and a mid-rail. The mid-rail shall be halfway between the top rail and the floor, platform, runway or ramp. "Selected lumber" free from damage that affects its strength, shall be used.
- Wooden posts shall be not less than 2 inches by 4 inches in cross section, spaced at 8-foot or closer intervals.
- Wooden top railings shall be smooth and of 2-inch by 4-inch or larger material. Double, 1-inch by 4-inch members may be used for this purpose, provided that one member is fastened in a flat position on top of the posts and the other fastened in an edge-up position to the inside of the posts and the side of the top member. Mid rails shall be of at least 1-inch by 6-inch material.
- The rails shall be placed on the side of the post that will afford the greatest support and protection.
- All guardrails, including their connections and anchorage, shall be capable of withstanding a load of 13 pounds per linear foot applied either horizontally or vertically downward at the top

rail.

- Railings receiving heavy stresses from employees trucking or handling materials shall be provided additional strength by the use of heavier stock, closer spacing of posts, bracing, or by other means.
- Floor, roof and skylight openings shall be guarded by a standard railing and toe boards or cover. Covering shall be capable of safely supporting the greater of the weight of a 200-pound person or the weight of worker(s) and material(s) placed thereon.
- Coverings shall be secured in place to prevent accidental removal or displacement, and shall bear a pressure sensitized, painted, or stenciled sign with legible letters not less than one inch high, stating: "Opening/Cover Do Not Remove." Markings of chalk or keel shall not be used.
- Ladder way floor openings or platforms shall be guarded by standard railings with standard toe boards on all exposed sides, except at the entrance to the opening, with the passage through the railing either provided with a swinging gate or so offset that a person cannot walk directly into the opening.
- Floor holes, into which persons can accidentally walk, shall be guarded by either a standard railing with standard toe boards on all exposed sides, or a floor hole cover of standard strength and construction that is secured against accidental displacement. While the cover is not in place, standard railings shall protect the floor hole.
- Wall openings, from which there is a drop of more than 4 feet, and the bottom of the opening is less than 3 feet above the working surface, shall be guarded with either a standard rail or intermediate rail or both.
- An extension platform outside a wall opening onto which materials can be hoisted for handling shall have side rails or equivalent guards of standard specifications. One side of an extension platform may have removable railings in order to facilitate handling materials.
- Wall opening protection barriers shall be of such construction and mounting that, when in place at the opening, the barrier is capable of withstanding a load of at least 200 pounds applied in any direction (except upward).
- All elevator shafts in which cages are not installed and which are not enclosed with solid partitions and doors shall be guarded on all open sides by standard railings and toe boards.
- A full body harness and lanyard are required when using boom lifts.

Personal Fall Arrest Systems

Personal fall arrest systems consist of a full body harness and a shock-absorbing lanyard attached to suitable anchorage. They are also an effective means of preventing fall accidents. The system does not actually stop you from falling, but catches you and safely stops you from hitting the level below.

Fall arrest systems will be our preferred means of protection when standard guardrails, safety cables, or covers are not practical. The following rules, in addition to the manufacturer's requirements and Cal OSHA regulations, will be observed:

- Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body harnesses shall be made from synthetic fibers except when they are used in conjunction with hot work where the lanyard may be exposed to damage from heat or flame.
- Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms. It shall also be capable of supporting at least 5,000 pounds per employee attached, or shall be designed, installed, and used as part of a complete personal fall arrest system which maintains a safety factor of at least two; and under the supervision of a qualified person.

- The attachment point of the body belt shall be located in the center of the wearer's back. The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level, or above the wearer's head.
- Where practical, the anchor end of the lanyard shall be secured at a level not lower than the employee's waist, limiting the fall distance to a maximum of 4 feet.
- Harnesses, lanyards, and other components shall be used only for employee protection as part of a personal fall arrest system and not to hoist materials.
- Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.
- We shall provide for prompt rescue of employees in the event of a fall or shall ensure that employees are able to rescue themselves.
- Personal fall arrest systems shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.
- Any lanyard, safety harness, or drop line subjected to in-service loading, as distinguished from static load testing, shall be immediately removed from service and shall not be used again for employee safeguarding.
- Personal fall arrest systems shall not be attached to guardrails, unless the guardrail is capable of safely supporting the load.
- Each personal fall arrest system shall be inspected not less than twice annually by a competent person in accordance with the manufacturer's recommendations. The date of each inspection shall be documented.
- Personal fall arrest systems will be rigged such that an employee can neither free fall more than 4 feet, nor contact any lower level.
- Personal fall arrest systems will bring an employee to a complete stop. They will also limit maximum deceleration distance an employee travels to 3.5 feet and have sufficient strength to withstand twice the potential impact energy of an employee free-falling a distance of 6 feet, or the free fall distance permitted by the system, whichever is less.

Positioning Device Systems

Positioning device systems are designed to allow employees to work with both hands free at elevated locations. By their very nature, they provide some level of fall protection. They are not as effective as railings or fall arrest systems. Positioning device systems may be used together with a fall arrest system for greater safety. Their use shall conform to the following provisions:

- Positioning devices shall be rigged such that an employee cannot free fall more than 2 feet.
- Positioning device systems shall be inspected prior to each use for wear, damage, and other deterioration and defective components shall be removed from service.
- Body belts, harnesses, and components shall be used only for employee protection (as part of a personal fall arrest system or positioning device system) and not to hoist materials.
- The use of non-locking snap hooks is prohibited.
- Anchorage points for positioning device systems shall be capable of supporting two times the intended load or 3,000 pounds, whichever is greater.

Personal Fall Restraint

Fall restraint systems are designed to prevent the wearer from reaching the edge or danger area and thus prevent them from falling. Body belts or harnesses may be used for personal fall restraint.

- Body belts shall be at least one and five-eighths (1 5/8) inches wide.

- Anchorage points used for fall restraint shall be capable of supporting 4 times the intended load.
- Restraint protection shall be rigged to allow the movement of employees only as far as the sides of the working level or working area.

Examples of Situations Requiring Fall Protection

The following are examples of situations where fall protection would be needed. This listing is by no means complete, and there are many other situations where a fall of 6 feet or more is possible.

Wall Openings

Each employee working on, at, above, or near wall openings (including those with chutes attached) where the outside bottom edge of the wall opening is 6 feet or more above lower levels and the inside bottom edge of the wall opening is less than 39 inches above the walking/working surface must be protected from falling by the use of a guardrail system, a safety net system, or a personal fall arrest system.

Holes

Personal fall arrest systems, covers, or guardrail systems shall be erected around holes (including skylights) that are more than 6 feet above lower levels.

Hoist Areas

Each employee in a hoist area shall be protected from falling 6 feet or more by guardrail systems or personal fall arrest systems. If guardrail systems (or chain gate or guardrail) or portions thereof must be removed to facilitate hoisting operations, as during the landing of materials, and a worker must lean through the access opening or out over the edge of the access opening to receive or guide equipment and materials, that employee must be protected by a personal fall arrest system.

Ramps, Runways, and Other Walkways

Each employee using ramps, runways, and other walkways shall be protected from falling 6 feet or more by guardrail systems.

Ladders

- Personnel working from ladders shall wear and, when required, use an approved safety harness / lanyard system for fall protection.
- Permanent caged structural ladders may be ascended or descended without additional fall protection.
- Temporary construction ladders, shall extend at least 36 inches above their uppermost landing and be secured against displacement.
- When ascending or descending ladders, personnel shall use both hands. Materials or tools shall not be carried in hands while using ladders.

Portable ladder (e.g.: extension ladders, step ladders, etc.) users must comply with the following:

- Personnel climbing ladders which are not tied off at the top must have another person hold the ladder at the bottom until it can be secured. This includes the last trip down after untying a ladder at the top.
- Upon climbing to the elevation where the task is to be performed, the person on the ladder shall properly secure their safety lanyard before doing anything else. Next, the ladder must be tied off before work can begin. When the task is complete, the process is reversed with the safety

lanyard being the last protective device released prior to descent.

Temporary Work Platforms / Walkways

(Scaffolds)

- Every effort shall be made to ensure all temporary platforms/walkways, scaffolds, etc. are equipped with solid decks free of openings and standard guardrails regardless of height.
- Personnel working from or traveling on temporary work platforms or catwalks must wear an approved safety harness and lanyard at all times. Personnel are not required to secure their lanyards when the temporary work platform or catwalk is complete with standard guardrail systems and walking / working surface (deck) which are free of opening. All access openings in the platform or catwalk must be provided with closure devices such as ladder gates.
- Personnel who are not protected by completed decks and guardrail systems must have their safety lanyard secured properly at all times. Personnel who must lean through or over handrails must secure their lanyard.
- Every temporary work platform or elevated walkway must be provided with a safe means of access / egress which allows personnel to remain tied off while gaining access to the platform or walkway. Retractable lifelines shall be used to achieve fall protection while ascending or descending access ladders to temporary work platforms or walkways.

Personnel Lift / Hoist Devices

(Aerial Lifts e.g.: Jig, Scissor, Snorkel, etc.)

- Personnel riding in or working from these lifts must wear an approved safety harness / lanyard system and secure their safety lanyard to lift basket at all times.
- Lifts shall be placed on solid level surfaces so as to eliminate possibility of overturning.

Spyders And Sky- Climbers

Personnel riding or working from these hoisting devices shall wear an approved safety harness / lanyard system and each shall provide an independent lifeline and rope grab to which their lanyard shall be secured at all times when aloft.

Permanent Structures / Stairs / Caged Ladders

- Personnel working or traveling on permanent decks, floors, and walkways which are free of fall exposures are not required to wear safety harnesses and lanyards provided they can access the elevations by completed permanent stairs or fully enclosed personnel hoists (elevators).
- Personnel working or traveling in incomplete permanent structures where fall exposures exist, such floor openings and open sided floors, must wear an approved safety harness/lanyard system and be properly tied off when within 6' of any fall exposure.
- Priority shall be given to installation and securing of permanent floors and walking surfaces and all guard rails and other permanent fall protection devices.
- When required, temporary guard rails and floor covers shall be installed to eliminate fall exposures.
- Only authorized personnel involved in work activities associated with the fall exposure and also are provided with secondary fall protection systems may work on floors or walkways which are incomplete.
- Permanent stairs, when completed, shall be used to access or egress elevated work areas.
- Safety lanyards and other fall protection are not required on stairs as the handrails are to be used for this purpose. Personnel climbing or descending stairs shall always have one hand on the

handrail.

- Caged ladders do not require secondary fall protection. Personnel climbing ladders must keep both hands free for climbing at all times.

Fall Protection Systems

When there is a potential fall of feet or more, we will utilize one or more of the following means of providing protection:

Guardrail Systems

Guardrail systems must meet the following criteria.

- Toprails and midrails of guardrail systems must be at least one-quarter inch nominal diameter or thickness to prevent cuts and lacerations. If wire rope is used for toprails, it must be flagged at not more than 6 foot intervals with high-visibility material. Steel and plastic banding cannot be used as toprails or midrails. Manila, plastic, or synthetic rope used for toprails or midrails must be inspected as frequently as necessary to ensure strength and stability.
- The top edge height of toprails, or (equivalent) guardrails must be 42 inches plus or minus 3 inches, above the walking/working level. When workers are using stilts, the top edge height of the top rail, or equivalent member, must be increased an amount equal to the height of the stilts.
- Screens, midrails, mesh, intermediate vertical members, or equivalent intermediate structural members must be installed between the top edge of the guardrail system and the walking/working surface when there are no walls or parapet walls at least 21 inches high. When midrails are used, they must be installed at a height midway between the top edge of the guardrail system and the walking/working level. When screens and mesh are used, they must extend from the top rail to the walking/working level and along the entire opening between top rail supports. Intermediate members, such as balusters, when used between posts, shall not be more than 19 inches apart.
- Other structural members, such as additional midrails and architectural panels, shall be installed so that there are no openings in the guardrail system more than 19 inches.
- The guardrail system must be capable of withstanding a force of at least 200 pounds applied within 2 inches of the top edge in any outward or downward direction. When the 200-pound test is applied in a downward direction, the top edge of the guardrail must not deflect to a height less than 39 inches above the walking/working level.
- Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding a force of at least 150 pounds applied in any downward or outward direction at any point along the midrail or other member.
- Guardrail systems shall be surfaced to protect workers from punctures or lacerations and to prevent clothing from snagging.
- The ends of top rails and midrails must not overhang terminal posts, except where such overhang does not constitute a projection hazard.
- When guardrail systems are used at hoisting areas, a chain, gate or removable guardrail section must be placed across the access opening between guardrail sections when hoisting operations are not taking place.
- At holes, guardrail systems must be set up on all unprotected sides or edges. When holes are used for the passage of materials, the hole shall have not more than two sides with removable guardrail sections. When the hole is not in use, it must be covered or provided with guardrails along all unprotected sides or edges.
- If guardrail systems are used around holes that are used as access points (such as ladder ways), gates must be used or the point of access must be offset to prevent accidental walking into the

hole.

- If guardrails are used at unprotected sides or edges of ramps and runways, they must be erected on each unprotected side or edge.

Personal Fall Arrest Systems

These consist of an anchorage, connectors, and a body belt or body harnesses and may include a deceleration device, lifeline, or suitable combinations. If a personal fall arrest system is used for fall protection, it must do the following:

- Limit maximum arresting force on an employee to 900 pounds when used with a body belt;
- Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness;
- Be rigged so that an employee can neither free fall more than 6 feet nor contact any lower level;
- Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet; and
- Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet or the free fall distance permitted by the system, whichever is less.
- The use of body belts for fall arrest is prohibited and a full body harness is required.
- Personal fall arrest systems must be inspected prior to each use for wear damage, and other deterioration. Defective components must be removed from service.

Positioning Device Systems

These body belt or body harness systems are to be set up so that a worker can free fall no farther than 2 feet. They shall be secured to an anchorage capable of supporting a least twice the potential impact load of an employee's fall or 3,000 pounds, whichever is greater.

Safety Monitoring Systems

When no other alternative fall protection has been implemented, the employer shall implement a safety monitoring system. The superintendent must appoint a competent person to monitor the safety of workers and shall ensure that the safety monitor:

- Is competent in the recognition of fall hazards;
- Is capable of warning workers of fall hazard dangers and in detecting unsafe work practices;
- Is operating on the same walking/working surfaces of the workers and can see them;
- Is close enough to work operations to communicate orally with workers and has no other duties to distract from the monitoring function.
- Mechanical equipment shall not be used or stored in areas where safety-monitoring systems are being used to monitor employees engaged in roofing operations on low-sloped roofs.
- No worker, other than one engaged in roofing work (on low-sloped roofs) or one covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system.
- All workers in a controlled access zone shall be instructed to promptly comply with fall hazard warnings issued by safety monitors.

Covers

Covers located in roadways and vehicular aisles must be able to support at least twice the maximum axle load of the largest vehicle to which the cover might be subjected. All other covers must be able to support at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time. To prevent accidental displacement resulting from wind, equipment, or

workers' activities, all covers must be secured. All covers shall bear the markings "HOLE" or "COVER" "DO NOT REMOVE."

Protection from Falling Objects

When guardrail systems are used to prevent materials from falling from one level to another, any openings must be small enough to prevent passage of potential falling objects. No materials or equipment except masonry and mortar shall be stored within 4 feet of working edges. Excess mortar, broken or scattered masonry units, and all other materials and debris shall be kept clear of the working area by removal at regular intervals.

Training

Employees will be trained in the following areas:

The nature of fall hazards in the work area;

- The correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems;
- The use and operation of controlled access zones and guardrail, personal fall arrest, safety net, warning line, and safety monitoring systems;
- The role of each employee in the safety monitoring system when the system is in use;
- the limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs;
- The correct procedures for equipment and materials handling and storage and the erection of overhead protection; and,
- Employee's role in fall protection plans.

Fall Protection Work Plan

Instructions: This form is to be completed for each work site where employees are assigned and a fall hazard(s) of 6 feet or more exists, as well as for other areas where the superintendent decides it is appropriate. This document must be completed by a superintendent who has an understanding of our fall protection requirements, and who has authority to take corrective action to help protect employees from exposure to fall hazards. A copy of this plan must be available on the work site and a copy sent to Brett.

Work Site Address: _____

Person Completing this Work Plan: _____ **Date:** _____

Fall Hazards Identified in Work Area (check only those that apply):

	Hazard Type	Fall Protection Method (circle those to be used). Refer to the manufacturer’s instructions for procedures on use & care of equipment, see Competent Person on site.	Overhead Protection (if needed indicate number from key below)
<input type="checkbox"/>	Leading Edge Work	Warning Line System	
<input type="checkbox"/>	Ladder Work	Positioning Belt	
<input type="checkbox"/>	Excavation Edges	Guardrails, Warning Line System	
<input type="checkbox"/>	Grade Drop-Offs	Guardrails	
<input type="checkbox"/>	Vaults		
<input type="checkbox"/>	Other (indicate):		
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
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<input type="checkbox"/>			

OVERHEAD PROTECTION METHOD KEY			
Number	Overhead Protection Method	Number	Overhead Protection Method
1	Hard Hats	5	Screens on Guardrails
2	Overhead Hazard Signs	6	Barricades to Control Access
3	Debris Nets	7	Other (indicate):
4	Toe Boards on Guardrails	8	Other (indicate):

Inspection of Fall Arrest Equipment

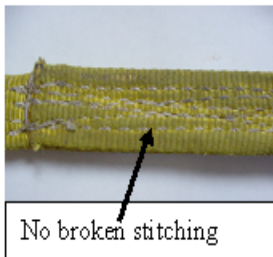
When to Inspect your equipment

- Each day before use
- More often when working near
 - Chemicals
 - Sharp objects
 - Welding operations
- At least 2 times per year by a Competent Person
- As required by Manufacturer

Inspection Points

Lanyards

- Cuts/Holes/Broken Stitching
- Hard spots from chemicals/paint
- Burns and heat damage
- Measure length



No broken stitching



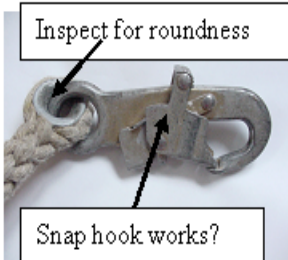
No cuts/burns

Document your results



Snap hooks and Hardware

- Damage, broken, non-functioning
- Cracks/corrosion/sharp edges

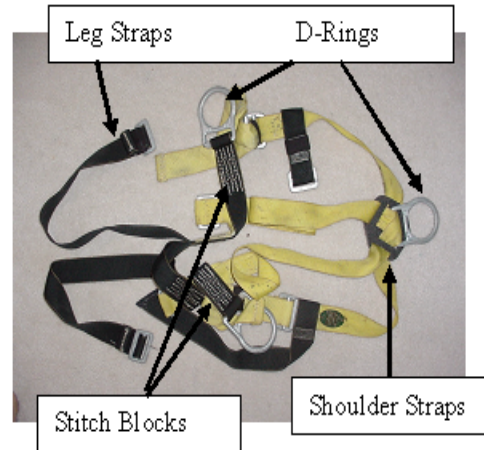


Inspect for roundness

Snap hook works?

Harness Inspection

- Burns/cuts/holes
- Broken stitches
- Cracked/deformed hardware
- Intact readable label



Leg Straps

D-Rings

Stitch Blocks

Shoulder Straps



Remove if any holes larger than 1/16 inch

No storage in gang boxes



Inspect your equipment before EACH use

Remove if impacted from a fall

Read manufacturer's instructions

Date Inspected: _____ Job Site: _____

Inspected by (print name): _____ Initial: _____