GUIDELINES FOR PERSONAL FALL ARREST SYSTEMS (PFAS)

Guidelines to help ensure proper use and maintenance of PFAS, enhancing worker safety

ABCDs of Fall Arrest (Component) Must meet ANSI Z359 standards
All must support 5,000 lbs. per employee unless there is an exception noted in the ANSI Z359 standard
Anchor Point
Body Harness
Connectors Include lanyards, deceleration devices, and lifelines
D-Ring Dorsal D-Ring

INSPECTION
Inspect PFAS components before each use
Remove defective components from service immediately

TRAINING
Employers must train workers on PFAS use, inspection, and maintenance
Training includes recognizing fall hazards and using equipment correctly

USAGE
PFAS is required for fall hazards of 6 feet or more
Applicable on ladders, scaffolds, roofs, and elevated platforms

FALL CLEARANCE
Ensure enough clearance below to prevent hitting lower levels during a fall.

COMPATIBILITY
Ensure all PFAS components are compatible to avoid failure and must hold a minimum of 5000 pounds.

STANDARDS
29 CFR 1910.140 Personal Fall Protection Systems (General Industry).
29 CFR 1926.502 Fall Protection Systems Criteria and Practices (Construction).

RESCUE PLAN
Employers must have a prompt rescue plan for fallen workers.

REGULAR TRAINING
Continuous training to maintain proficiency and stay updated on safety procedures.

FALL PROTECTION DEFINITIONS

Fall protection is any safety system designed to prevent falls or reduce the impact of a fall. Common fall protection systems are:

- ❑ **Guardrails:** Physical barrier to prevent workers from falling.
- ❑ **Personal Fall Arrest System (PFAS)**: Full-body harness, lanyard, anchor points, and deceleration device to stop a fall.
- ❑ **Fall Restraint System**: A system that prevents workers from reaching a fall hazard.
- ❑ **Safety Net System**: A net installed below a work area to catch falling workers or materials.
- ❑ **Hole Covers**: Used to cover floor holes to prevent falls.
- ❑ **Warning Line Systems**: A barrier set up to prevent workers from entering unprotected edges.

FOR FALL PROTECTION EQUIPMENT

Key Safety Considerations

- ❑ **Personal Fall Arrest Systems (PFAS)** must be inspected before each use.
- ❑ **Shock-absorbing lanyards** help reduce the arresting force on the worker.

• **Retractable Lifelines (SRLs)** can help reduce fall distance and impact forces.

Rescue Plan: Employers must have a plan in place to retrieve fallen workers quickly.

These OSHA requirements ensure that fall protection systems effectively minimize fall-related injuries. Let me know if you need more details!

COMPONENT	REQUIREMENT
Body Harness	Must distribute forces over thighs, pelvis, waist, chest & shoulders. OSHA prohibits body belts for fall arrest.
Anchor Points	Must support **at least 5,000 lbs per worker**, or be designed and installed under supervision by a qualified person with a safety factor of **two times the expected load**.
Maximum Arresting Force	**1,800 lbs** (when using a full-body harness).
Deceleration Distance	Must not exceed **3.5 feet**.
Lanyard and Lifeline Strength	Must have a **minimum breaking strength of 5,000 lbs**.
Free Fall Limit	Must not exceed **6 feet** before activation of the fall arrest system.
Total Fall Clearance	Typically **15-18 feet**, including free fall, deceleration, harness stretch, and worker height.
Snap Hooks and D-Rings	Must have a **minimum tensile strength of 5,000 lbs** and be proof-tested to **3,600 lbs without deformation**.

SLIP, TRIP & FALLS PREVENTION TIPS

GENERAL REQUIREMENTS:

- ❑ Keep all places of employment, passageways, storerooms, and service rooms clean and orderly.
- ❑ Ensure that all places of employment are kept clean and orderly and that they are free from accumulations of materials that could cause tripping or slipping hazards

WALKING AND WORKING SURFACES

- ❑ Provide and maintain safe means of access and egress
- ❑ Ensure walking and working surfaces have the strength and structural integrity to support employees safely
- ❑ Keep walking and working surfaces clean and orderly

GUARDRAILS, HANDRAILS, AND COVERS

- ❑ Provide guardrails and toe boards on all exposed sides and edges of platforms, runways, and ramps
- ❑ Ensure all stairways having 4 or more risers have standard stair railings or handrails
- ❑ Cover floor openings and floor holes

OSHA STANDARDS RELATED TO FALL PROTECTION

General Industry	4 ft. and above
Construction	6 ft. and above
On Scaffolding	10 ft and above (most clients prohibit this)

3 CONVENTIONAL METHODS OF FALL PROTECTION

1) Guardrails
2) Personal Fall Arrest System
3) Safety Nets

HOUSEKEEPING

- ❑ Maintain all places of employment, passageways, storerooms, and service rooms in a clean, orderly, and sanitary condition
- ❑ Ensure all spills and other accumulated materials are cleaned up as soon as possible
- ❑ Provide for the safe removal of waste materials from the jobsite

FLOOR LOADING PROTECTION

- ❑ Ensure all materials stored are stacked, blocked, interlocked, or otherwise secured to prevent sliding, falling, or collapse.
- ❑ Store all materials so that the load is balanced safely
- ❑ Remove all materials stored on levels when possible

SAFETY NET SYSTEMS

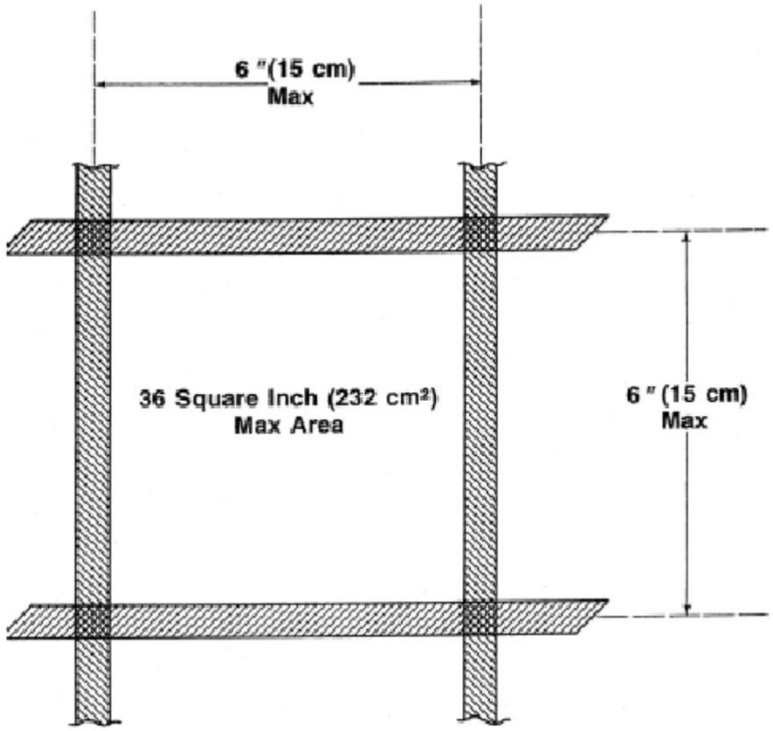
- ❑ Provide safety nets, personal fall arrest systems, or positioning device systems when working at heights above 6 feet
- ❑ Ensure all safety net systems are inspected at least weekly, and after any incident that could affect safety net integrity

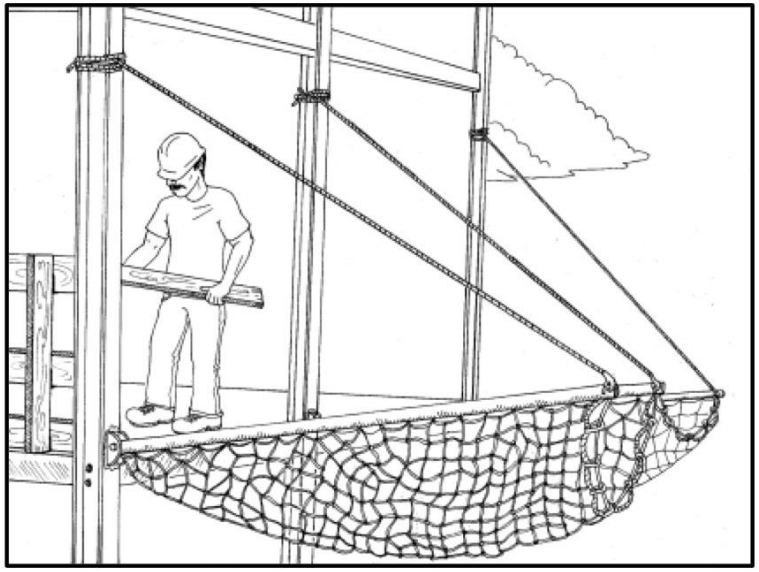
PPE

- ❑ Provide appropriate PPE to all employees at no cost to them and ensure that PPE is used correctly by everyone
- ❑ Ensure all employees have been trained in the proper use of PPE and that they use it correctly.

SAFETY NETS

- ❑ Safety nets are installed as close as possible to the work surface and no more than 30 feet below to provide adequate fall protection.
- ❑ Before each use, safety nets are inspected for damage, wear, or deterioration, with all connections, attachments, and anchorage points being checked to ensure they are secure.
- ❑ The area beneath the safety net is kept clear of materials, debris, or equipment that could pose additional hazards.
- ❑ Safety nets are tested after installation to verify that they meet the necessary strength and performance requirements.
- ❑ A 400-pound sandbag is dropped on them before they are put in service and again every six months afterward.
- ❑ Workers are trained on the correct procedures for installing, inspecting, and maintaining safety nets.
- ❑ Any damage or defects found during inspections are repaired or the safety net is replaced.
- ❑ Safety nets are installed with sufficient clearance beneath to prevent workers from contacting any surfaces or structures if they fall.
- ❑ Regular audits and assessments of safety net systems are conducted to ensure ongoing compliance with safety regulations.
- ❑ Emergency procedures are in place to rescuing workers from safety nets in the event of a fall.
- ❑ The maximum size of each safety net mesh opening shall not exceed 36 square inches nor be longer than 6 inches on any side, and the opening, measured center-to-center of mesh ropes or webbing, shall not be longer than 6 inches. See below.





MEWPs

Mobile Elevated Work Platforms aka
Aerial Lifts, Scissor Lifts, Manlifts
that are self-propelled

- ❑ MEWPs are normally engineered for 1-2 persons
- ❑ Inspect for leaks, loose or missing parts before using.
- ❑ Operators must be properly trained and certified, ensuring they have the knowledge & skills to operate equipment safely.
- ❑ Pre-operation inspections must be conducted on MEWPs before each use to check for any mechanical issues, leaks, or damage that could compromise safety.
- ❑ The work area must be assessed for hazards such as uneven ground, overhead obstructions, and proximity to power lines before operating the MEWP.
- ❑ Fall protection equipment, such as harnesses and lanyards, must be used by workers on MEWPs, and they must be securely attached to designated anchor points.
- ❑ The MEWP's load capacity must be verified and not exceed the combined weight of workers, tools, and materials.
- ❑ Only trained personnel must be allowed to operate the MEWP, and unauthorized use of the equipment must be prohibited.
- ❑ MEWPs must be operated on stable, level ground to prevent tipping, and outriggers or stabilizers must be used if necessary to enhance stability.
- ❑ Weather conditions must be monitored, and MEWP operations must be suspended during high winds, lightning, or other adverse weather conditions that could affect safety.
- ❑ A clear communication system must be established between the MEWP operator and ground personnel to ensure coordination and prevent accidents.
- ❑ The MEWP's emergency lowering system must be tested and understood by operators to ensure it can be used effectively in case of a malfunction.
- ❑ MEWPs must be driven at low speeds and with caution, especially when moving through congested or uneven areas.
- ❑ Personnel working on or near MEWPs must be made aware of the swing radius to avoid being struck or pinned by the equipment.
- ❑ The area below the MEWP must be kept clear of personnel and materials to prevent injuries from falling objects.
- ❑ MEWP operations must be stopped immediately if any unsafe condition is observed, and corrective actions must be taken before resuming work.
- ❑ The MEWP must not be moved with the platform elevated unless it is specifically designed for such operation and conditions allow safe movement.
- ❑ Operators must maintain a safe distance from power lines, respecting the minimum clearance distances to avoid electrical hazards.
- ❑ Regular maintenance and inspections of the MEWP must be conducted according to the manufacturer's guidelines to ensure continued safe operation.
- ❑ Safety signage and warning labels on the MEWP must be clearly visible and adhered to by all personnel.
- ❑ MEWP operations must be documented, and any incidents or near misses must be reported and reviewed to improve safety practices.
- ❑ Continuous safety training and refreshers must be provided to all MEWP operators to keep them updated on best practices and regulatory changes.

SAFE LADDER PRACTICES

STEP LADDERS

- ❑ Use fiberglass ladders (non-conductive) in areas with electrical wires or equipment
- ❑ Inspect the ladder before each use for damage that could compromise safety.
- ❑ Set up on a stable, level surface & ensure all four feet are in contact with the ground.
- ❑ Fully extend and lock the spreaders or locking mechanism for stability before use.
- ❑ Avoid overreaching or leaning while on the ladder to maintain balance and prevent falls.
- ❑ Only one person should be on the ladder at a time.
- ❑ Carry tools & materials in a tool belt or hoist them up to keep hands free for climbing.
- ❑ Do not use the top 2 steps as standing platforms.
- ❑ Position close to the work area to prevent overreaching and reduce the risk of falls.
- ❑ Wear non-slip footwear for secure footing on the rungs.
- ❑ Properly store the ladder after use to prevent tripping hazards.

EXTENSION LADDERS

- ❑ Inspect the ladder before each use for any damage.
- ❑ Set up the ladder at the proper angle for stability. 4:1 angle. For every 4 ft up will be 1 ft out.
- ❑ Extend the ladder at least three feet above the landing point.
- ❑ Secure both the top and bottom of the ladder If necessary.
- ❑ Place the ladder on a stable, non-slippery surface.
- ❑ Maintain three points of contact while climbing.
- ❑ Allow only one person on the ladder at a time.
- ❑ Avoid carrying heavy items while climbing.
- ❑ Position the ladder away from doorways or traffic areas.
- ❑ Wear non-slip footwear while using extension ladders.
- ❑ Extension ladders up to 36 feet long, overlap should be at least 3 feet
- ❑ Extension ladder lengths between 36 and 48 feet, overlap should be at least 4 feet.

FIXED LADDERS

- ❑ Regular inspections are required for signs of wear, corrosion, or damage that could compromise safety.
- ❑ When 24 feet or taller, fixed ladders must be equipped with fall protection systems aka ladder climbing device.
- ❑ Workers must maintain three points of contact while climbing fixed ladders to ensure stability and prevent falls.
- ❑ Proper climbing techniques, such as facing the ladder and using slow, deliberate movements, enhance safety.
- ❑ Must be kept free of obstructions, debris, or slippery substances. Safety training must be provided to all workers using fixed ladders.
- ❑ If emergency descent systems are required, they must be checked and maintained regularly.
- ❑ Adequate lighting in areas where fixed ladders are used is essential for visibility and safe access.
- ❑ Regular maintenance is necessary, with any required repairs or replacements made promptly.
- ❑ Signage indicating ladder safety protocols and weight limits must be posted near fixed ladders.

SAFE LADDER PRACTICES

LADDER DUTY RATING

The total amount of weight your ladder will be supporting:

Person's Weight
+ The weight of clothing and PPE
+ The weight of tools and objects carried
+ The weight of tools and supplies stored on the ladder
= TOTAL WEIGHT IMPOSED ON A LADDER

5 CATEGORIES OF LADDER DUTY RATINGS

Type IAA (Extra Heavy Duty)	375 pounds
Type IA (Extra Heavy Duty)	300 pounds
Type I (Heavy Duty)	250 pounds
Type II (Medium Duty)	225 pounds
Type III (Light Duty)	200 pounds

SCAFFOLDING SAFETY TIPS

GREEN
Scaffolding is safe to use with or without personal fall arrest

YELLOW
Scaffolding is safe to use, but modifications have been made that workers should be aware of or use personal fall arrest.

RED
scaffolding is NOT safe to use, and avoid using until repaired or replaced

- ❑ Scaffolding safety ensures its safe use and assembly and prevents falls, collapses, and other hazards.
- ❑ Before each work shift and after events affecting its integrity, a competent person inspects the scaffolding.
- ❑ All scaffolding components are checked for damage, corrosion, or defects to ensure good condition.
- ❑ Scaffolding is erected on a stable, level surface with base plates or mudsills to distribute weight and prevent sinking or shifting.
- ❑ The scaffold structure is braced correctly, secured, and stabilized to prevent tipping or collapsing.
- ❑ Guardrails, midrails, and toe boards are installed on open sides of scaffolds 10 feet or higher to prevent falls.
- ❑ Workers use proper access points such as ladders or stair towers to get on and off the scaffold.
- ❑ Overloading scaffolding must be avoided to ensure the load capacity is not exceeded.
- ❑ Scaffolding platforms are fully planked with no gaps to provide a stable and secure working surface.
- ❑ Scaffolding is free of debris, tools, and materials that could create tripping hazards or obstruct safe movement.
- ❑ Workers use personal protective equipment such as hard hats, non-slip footwear, and fall protection harnesses when necessary.
- ❑ Scaffolding is not moved or altered while in use or while workers are on it.
- ❑ The work area around the scaffold is barricaded to prevent unauthorized access & protect workers & passersby from falling objects.
- ❑ Scaffolding is secured to the building or structure using ties or braces at regular intervals to enhance stability.
- ❑ Workers do not use scaffolding in adverse weather conditions such as high winds, heavy rain, or lightning.
- ❑ Inspection records document the condition of the scaffolding and any corrective actions taken before use.
- ❑ Scaffolding components are correctly stored when not in use to prevent damage.
- ❑ Workers receive training on scaffolding safety, including proper setup, use, and hazard recognition.
- ❑ Tagging systems indicate whether scaffolding is safe for use, under inspection, or out of service.
- ❑ All scaffold users report any safety concerns or defects they observe immediately to the competent person in charge.
- ❑ Regular audits of scaffolding practices and procedures ensure compliance with safety regulations and continuous improvement.
- ❑ Guys, ties, and braces shall be installed according to the scaffold manufacturer's recommendations or at the closest horizontal member to the 4:1 height and be repeated vertically at locations of horizontal members every 20 feet or less thereafter for scaffolds 3 feet wide or less, and every 26 feet or less thereafter for scaffolds greater than 3 feet wide.
- ❑ The top guy, tie or brace of completed scaffolds shall be placed no further than the 4:1 height from the top. Such guys, ties and braces shall be installed at each end of the scaffold and at horizontal intervals not to exceed 30 feet.

TWO-POINT SWING STAGE SCAFFOLDING

A **Two-Point Swing Stage Scaffold** is a **suspended scaffold** that hangs from overhead supports using two cables or ropes. It is commonly used for:

- Window washing on high-rise buildings
- Exterior building maintenance
- Facade repairs and painting

Key components include:

- ❑ **Platform (Stage)**: Where workers stand.
- ❑ **Hoists**: Mechanisms that raise or lower the scaffold.
- ❑ **Outriggers or Roof Anchors**: These are used to secure the suspension points.
- ❑ **Guardrails or Personal Fall Arrest Systems (PFAS)**: Required for worker safety.

This type of scaffold provides flexibility and allows workers to access large vertical areas efficiently.