

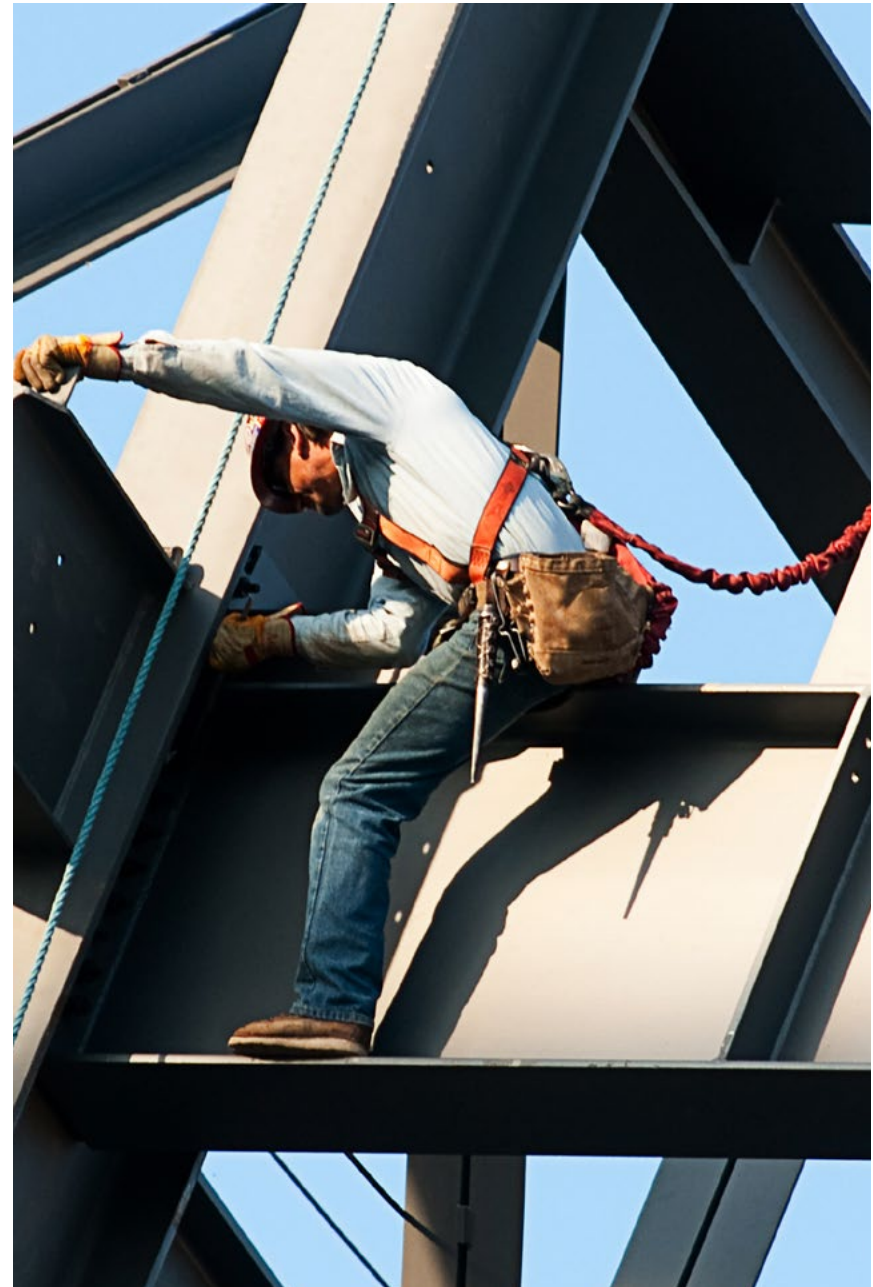
Fall Protection Guide for Construction

Fall Protection Overview

Falls from heights continues to contribute to more deaths in construction than any other hazard.¹ Falls can occur in a split second, but have long lasting effects, which can include; loss of life, pain and suffering to employees or their families, regulatory fines, project delays, increased insurance costs, etc. Despite improvements in safety awareness, fall protection requirements are consistently one of OSHA's most cited standards during inspections, complaints or accident investigations.

To combat fall-related injuries and fatalities will take a collaborative effort at all levels of your business and a commitment to train and implement comprehensive fall protection strategies. Nationwide has assembled a program guide that will assist you through some of the basic requirements for fall protection outlined in Title 29 Code of Federal Regulations 1926.500-Sub Part M – Fall Protection. This guide will assist you in understanding the critical roles and responsibilities and best practices for hazard analysis. It also explains the various types of fall protection, rescue planning and provides sample templates to create a general fall protection program and site-specific fall protection plan.

¹ <https://www.cdc.gov/niosh/face/default.html>



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Overview

What is a fall hazard?

A fall hazard is anything in the workplace that could cause an unintended loss of balance or support that results in a fall. This could include:

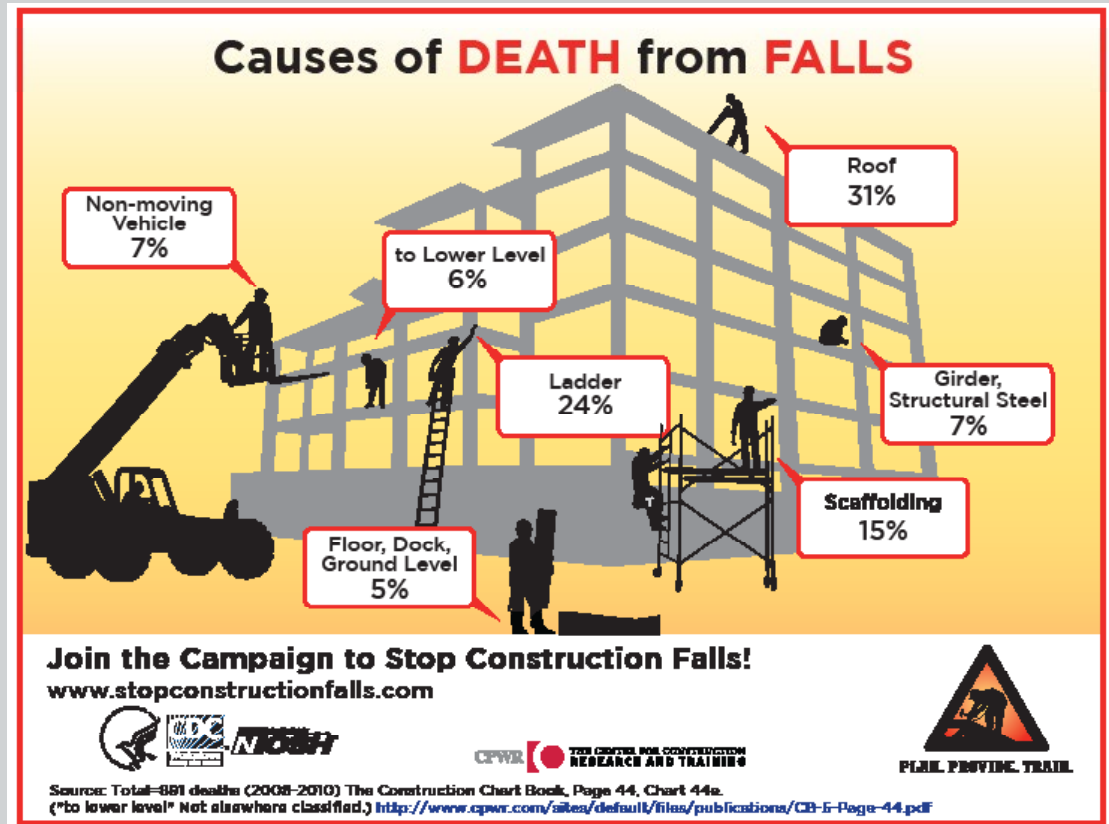
- A worker walking near an unprotected edge of a building who loses balance and falls
- A worker carrying materials who trips and falls into a skylight or open hole
- A worker painting on a makeshift scaffold who falls off due to no guardrail protection

Where do falls occur?

As part of the National Campaign to Prevention Construction Falls, OSHA, NIOSH and CPWR assembled an infographic showing causes of death by fall category to help better focus efforts. Click the image at right to download a copy of the infographic.

- [Article: Avoid Costly Falls from Heights](#)

Image courtesy CDC (OSHA)/NIOSH/CPWR



Basic Requirements

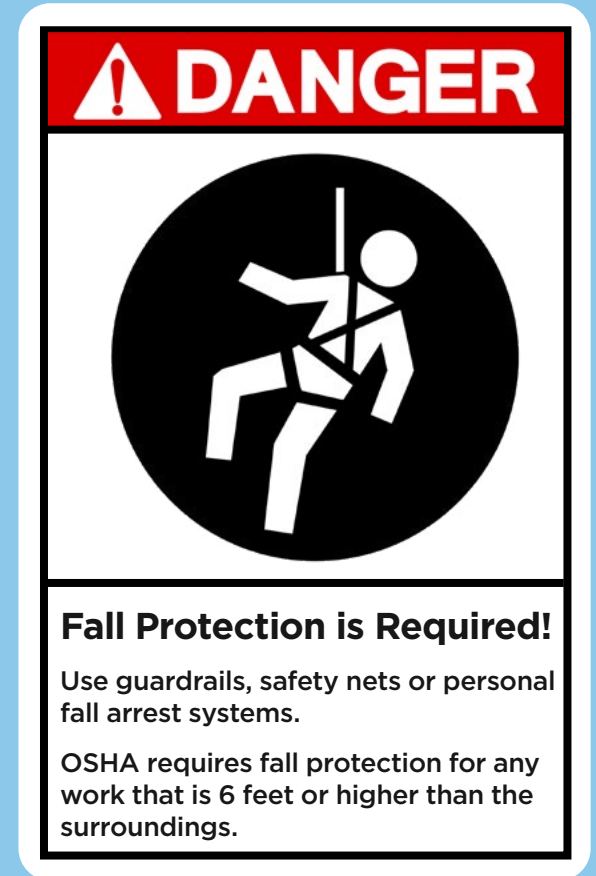
A majority* of states require the construction Industry to follow the 6-foot rule. This requires that construction workers must be protected from a fall when working 6-feet or higher above a lower level. The 6-foot rule is a minimum standard and does not preclude businesses from implementing more conservative triggers for fall protection requirements.

A recent CPWR survey¹ found that employee beliefs regarding their company's fall protection policies and rules are strongly associated with the use of fall protection. Respondents who believed fall protection was required by their employer were 8 times more likely to use fall protection.

An exception to the 6-foot rule applies when working near dangerous equipment (e.g., over machinery with open drive belts, conveyors, open vats, etc). In this case a worker needs to be protected at any height.

* For non-Federal OSHA states, reference your state-specific requirements for fall protection heights

¹ [CPWR Survey on Underlying Causes of Falls from Heights](#)



Basic Requirements – Specific Construction Activities

Falls can result from various construction activities. In the basic requirements section, we discuss the 6-foot rule. However, there are certain types of work that OSHA cites specific fall height triggers outside of 6 feet and sets requirements that the guide has not outlined.



The information included here is for compliance with federal OSHA; state plans could have more stringent requirements. Follow this link for state plans: <https://www.osha.gov/stateplans/statestandards>

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Basic Requirements: Specific Construction Activities

Nationwide has developed this table to speed up the process of determining at what height fall protection is needed in construction. The information included in this table is for compliance with federal OSHA; state plans could have differing requirements.

Follow this link for state plans: <https://www.osha.gov/stateplans/statestandards>

* Most scissor lift manufacturers recommend operators be tied off while using equipment. Utilizing fall protection within scissor lifts is an industry best.

** Steel Erection Connectors shall be protected from hazards more than two stories or 30 feet above a lower level, whichever is less

*** A controlled decking zone may be established in that area of the structure over 15 and up to 30 feet above a lower level where metal decking is initially being installed and forms the leading edge of a work area

At what height is fall protection needed in construction?				
Construction Activities	Height (Feet)			
	Any	6	10	15
Dangerous Equipment	X			
Excavations		X		
Formwork and Reinforcing Steel		X		
Hoist Areas		X		
Holes		X		
Leading Edges		X		
Aerial Lifts (MEWP)	X*			
Overhand Bricklaying and Related Work		X		
Precast Concrete Erection		X		
Ramps, Runways and Other Walkways		X		
Residential Construction		X		
Roofing Work on Low-Slope Roofs		X		
Scaffold			X	
Steel Erection (General)				X
Steel Erection (Connectors)				**
Steel Erection (Controlled Decking Zone)				***
Steep Roofs		X		
Wall Openings		X		
Walking/Working Surfaces Not Addressed		X		

Basic Requirements:

Leading Edge Work

Each employee who is constructing a *leading edge* 6 feet or more above lower levels shall be protected from falling by **guardrail systems, safety net systems, or personal fall arrest systems.**

- Exception: When the employer can demonstrate that it is infeasible or creates a greater hazard to use these systems, the employer must develop and implement a fall protection plan that meets the requirements of [29 CFR 1926.502\(k\)](#)
- This exception should only be used as a last resort when all other fall protection options have been exhausted.

Special consideration needs to be paid when selecting a personal fall arrest system for leading edge work. Due to the potential for sharp edges, it is critical that all self retracting life lines be specifically designed and tested for leading edge work.

All workers must be protected by a guardrail system, safety net, or personal fall arrest system, even when they are not engaged in leading edge work, if they are on a walking/working surface that is 6 feet or more above a level where leading edges are under construction, per OSHA [1926.501\(b\)\(2\)\(ii\)](#)

Photo courtesy Oregon OSHA



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Basic Requirements:

Holes

All workers need to be protected from falling through holes (including skylights) on walking/working surfaces 6 feet above lower levels. The protection methods can include: fall arrest systems, covers, or guardrail system erected around such openings. Covers for holes in floors, roofs and other walking/working surfaces must:

- Support at least twice the maximum expected weight of workers, equipment and materials.
- Be secured so they will not be displaced.
- Be large enough to provide appropriate overlap to prevent workers from fall through and have a full-edge bearing on all four sides.
- Be painted with a distinctive color or marked with the word HOLE or COVER.
- Be left in place over the hole until access is needed and be inspected periodically.
- Information on plywood covers can be referenced at [29 CFR 1926.501\(b\)\(4\)](#) and [29 CFR 1926.501\(i\)\(1\), \(i\)\(2\)](#).
- Skylights are not considered covers unless they meet the ANSI/OSHA strength requirements. Skylights not meeting this are required to be guarded with OSHA/ANSI compliant screens or railings.

Image courtesy ELCOSH/Center for Construction Research and Training



On August 19, 2021, a contractor fell 18 feet through an unprotected skylight to his death. Other findings included exposing workers to unguarded roof openings and roof edges, and failure to provide employees with any personal fall protection equipment. The U.S. Department of Labor levied a \$1.2 million dollar penalty against the contractor's employer.¹

¹ <https://www.osha.gov/news/newsreleases/region2/02282022>

Basic Requirements: Training

All workers who could be exposed to potential fall hazards must understand the critical nature of these hazards, understand how to recognize hazards and know procedures or steps to take in order to minimize these hazards. Some training topics can include, but are not limited to:

- Nature of fall hazards
- How to identify hazards
- How to use fall protection systems
- Erecting, inspecting/maintaining and disassembling fall protection systems
- Limitations of certain systems
- The role of each employee
- Rescue procedures
- All other applicable requirements of Subdivision M for the type of fall protection systems used

*OSHA requires the employer to verify compliance with 1926.503(a) by preparing a written certification record. The written certification record shall contain the name or other identity of the employee trained, the date(s) of the training, and the signature of the person who conducted the training or the signature of the employer. If the employer relies on training conducted by another employer or completed prior to the effective date of this section, the certification record shall indicate the date the employer determined the prior training was adequate rather than the date of actual training. The most recent training certificate shall be maintained.

(Insert Company Name) Fall Prevention Training Certification

Insert Your Company Logo Here

The following are topics reviewed in the fall prevention training:

- Overview of fall protection program
- Common fall hazards we encounter
- Fall protection systems used
- Correct procedures for erecting, using, maintaining, disassembling, and inspecting the fall prevention and protection systems
- Rescue methods

Trainee acknowledgement:

The training I received today gave me the ability to understand:

Fall Prevention Training Topics Included:

- Nature of fall hazards
- How to identify fall hazards
- Use fall protection systems
- Limitations of certain systems
- The role of each employee
- The type of fall protection system I will use
- Other:
- Other:
- Other:

Hands-On Training Included:

- Donning & doffing a full body harness
- Inspecting harness
- Inspecting lanyard
- Inspecting positioning devices
- Inspecting fall restraint components
- Inspecting lifelines
- Correct procedures for storing and maintenance
- Other:
- Other:

Trainer Acknowledgment:

I certify I have trained the employee for the equipment and scope used in Insert Company Name Fall Prevention Program. I am a competent person. Assigned by Insert Company Name who is qualified to provide fall protection training.

<small>Print Employee Name</small>	
<small>Employee Signature</small>	
<small>Print Instructor's Name</small>	
<small>Instructor's Signature</small>	
<small>Instructor's Title</small>	
<small>Date of Training</small>	
<small>Location</small>	

*Refer to OSHA regulations for training compliance. [https://www.osha.gov/laws-regs/interlinking/standards/1926.503\(b\)](https://www.osha.gov/laws-regs/interlinking/standards/1926.503(b))



Basic Requirements: Re-Training

According to OSHA, retraining must be completed when the employer has reason to believe that any affected employee who has already been trained but does not demonstrate adequate understanding and skill required by 1926.503(a), the employer shall retrain each such employee.

Examples of situations that would require re-training include, but are not limited to:

- Changes in the workplace render previous training obsolete
- Changes in the types of fall protection systems or equipment to be used render previous training obsolete
- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.
- Re-training of employees a minimum of every 2 years is an industry best practice and ANSI recommendation



Roles and Responsibilities:

What is your role?

The primary responsibility for managing fall exposures and implementing appropriate training and procedures lies with the employer. However, a successful fall protection program requires everyone within the organization to play a role. Critical roles can include, but do not have to be limited to:

Employer — Any successful safety program starts with ownership commitment to the process and the end product. Ownership should be committed to a safe workplace for all its employees and to implementing comprehensive fall protection strategies.

- The employer shall also provide a training program for each employee who might be exposed to fall hazards.
- The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards

Management — Managers are responsible for ensuring each employee is provided the required training, documenting and certifying training, ensuring safety policies are consistently enforced, assessing when re-training is needed, fielding suggestions to improve safety and ensuring proper safety and personal protection gear is available.



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Roles and Responsibilities: What is your role?

Supervisors/Foreman — Supervisors are responsible for jobsite supervision, training of employees, enforcing safe work practices and identification and correction of hazardous conditions.

Safety Committee — Safety committee should include management and employee representatives who hold a variety of different positions and can share perspectives on work practices and needed areas of improvement. The committee should assist in identifying hazards and making recommendations to eliminate, reduce or control them. Other roles could include periodic jobsite walks, program reviews, accident and near miss reviews, etc.

Employees — The safety program's ultimate success is dependent on employee participation and adherence to rules, policies and best practices. All employees are responsible for identifying and reporting hazards immediately to their supervisors or safety committee, following safe work practices and for utilizing required personal protective and fall protection equipment.



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Roles and Responsibilities:

What is your role?

The Competent Person:

- Supervises implementation of the fall protection plan
- Shall have authority to stop work and take immediate corrective action.
- Serves as the monitor for a safety-monitoring system and is responsible for recognizing hazards that cause falls, and warns workers about hazards
- Determines whether safety nets meet Subdivision M requirements
- Ensures prompt rescue can be performed and is responsible for implementing and monitoring rescue procedures
- Evaluates any alteration in a personal fall-arrest system and determines if it is safe to use
- Trains employees how to recognize fall hazards and follow safety procedures

The Qualified Person:

- Supervises design, installation, and use of horizontal lifeline systems to ensure that they can maintain a safety factor of at least two — twice the impact of a worker free-falling six feet
- Supervises design, installation, and use of personal fall restraint anchorages
- Supervises design, installation, and use of personal fall-arrest anchorages



Hazard Analysis

A critical step in the risk management process is hazard analysis, which is key to your pre-planning efforts. Failure to identify potential hazards will leave you unprepared to evaluate and mitigate potential risk. The hazard analysis process must also take into account how workers interact or complete assigned tasks around these potential hazards. A best practice is to utilize formalized process/checklist, such as a [Job Hazard Analysis](#). Some key areas to consider include:

- Identify tasks that could expose workers to fall hazards
- Identify all hazards within each designated work area
- Evaluate how frequently a task will be conducted while taking into account potential severity as well.
- Evaluate weather or other environmental conditions that could contribute to fall hazards
- Determine whether employees need to move horizontally, vertically or in both directions to complete tasks.
- Determine fall distances to lower levels
- Identify types of rescue equipment needed

Key Findings: [A recent CPWR survey](#) revealed that insufficient or ineffective planning was the most selected cause for falls.



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Fall Mitigation Methods

The next step in the hazard analysis process is to select the most appropriate risk management technique to address the hazard identified. Utilizing the Hierarchy of Controls will allow you to evaluate and select the most effective method for eliminating or controlling the potential hazard. The primary goal of Management is to, wherever possible, **eliminate** the fall hazard for the employee. The following are examples of a fall protection hierarchy in order of effectiveness from most down to least effective methods.

Examples:

- 1. Elimination/Substitution** — Using a tool instead of scaffolding or a ladder.
- 2. Passive Fall Protection** — Implementing an approved guard rail system where the employee is working.
- 3. Fall Restraint System** — Utilizing a system to prevent workers from reaching the fall hazard (e.g. full-body harness, anchor point and some type of lanyard).
- 4. Fall Arrest System** — A personal fall arrest system is used to stop or arrest the fall of worker so they do not hit the ground. It consists of an anchorage point, body harness, connecting means — lanyard and deceleration device or self retracting lifeline.
- 5. Administrative Controls** — Employing a warning line system or safety monitor would be examples administrative controls for fall protection.



Types of Fall Protection

There are two basic types of fall protection systems, **Passive** and **Active**.



Passive Systems do not require any special action on the part of the user. In general, it is preferable to implement passive systems because they prevent the fall from occurring.



Active Systems require “active participation” from the user and special equipment to function correctly. Active systems, such as a personal fall arrest device help “arrest” the fall after an incident has occurred. Active systems are less preferred on the hierarchy of controls due to: employees being exposed to a fall, special equipment, inspections, higher margin for error during usage, etc.

* Reference [your state plan](#) for any non-Federal OSHA-specific requirements.

Passive Systems image courtesy ELCOSH/Center for Construction Research and Training

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Passive Fall Protection

Passive systems are static and require little to no interaction for employees exposed to fall hazards. Passive systems are a preferred method of fall protection when compared to active systems.*

Common types of passive fall protection include:

- Guardrails
- Barricades
- Fences
- Protective covers (holes, skylights, floor openings)
- Safety nets

* Systems used for passive fall protection may have different requirements and should be compliant with local jurisdiction.



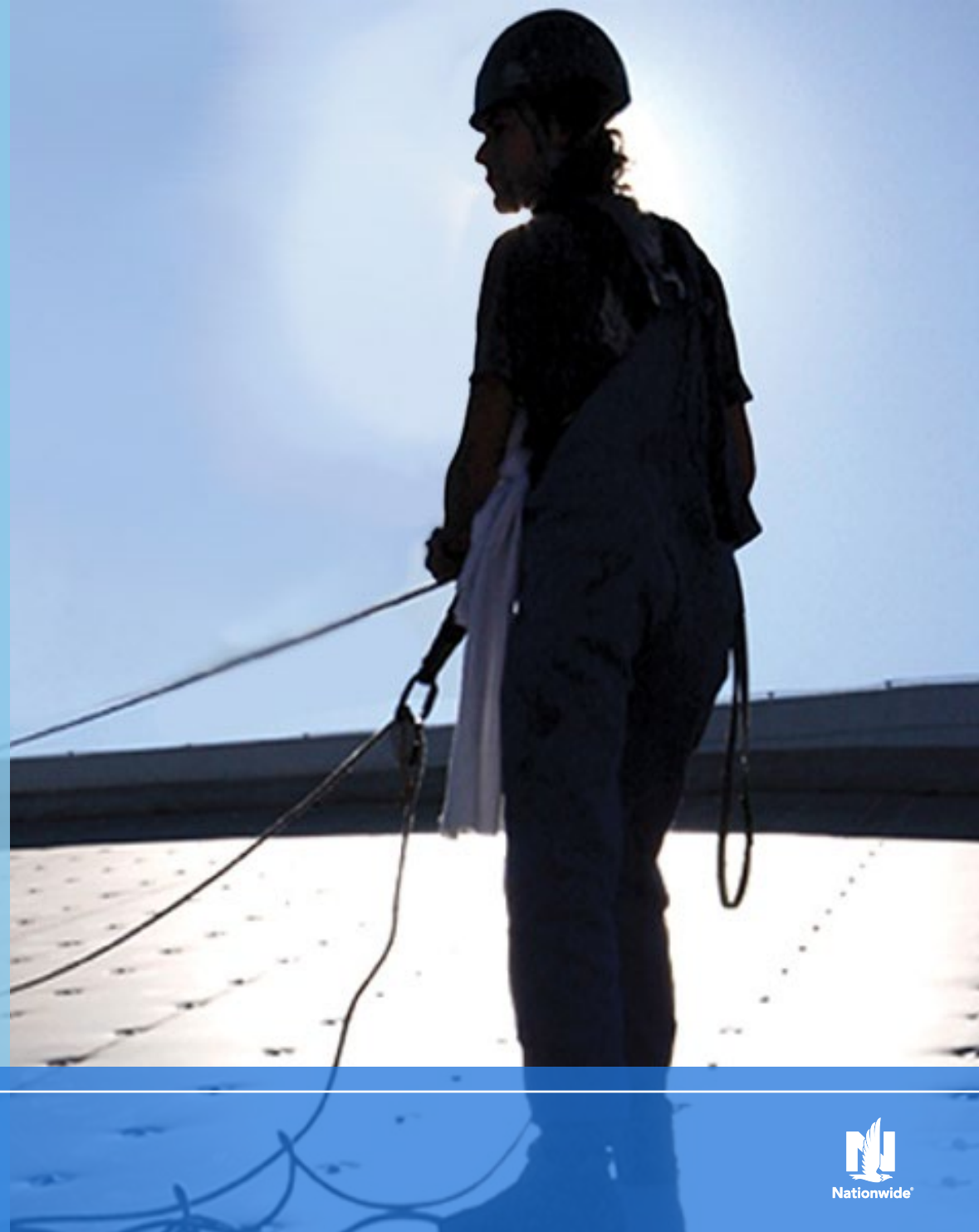
Active Fall Protection

Active fall protection systems are dynamic and interactive. Employees using active fall protection interact with components while performing work. Active fall protection is considered PPE and would be the last choice using the hierarchy of controls.

Active Systems include:

- Personal Fall Arrest Systems
- Positioning Device Systems
- Fall Restraint Systems

Image courtesy osha.gov



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Personal Fall Arrest Systems (PFAS)

PFAS are used to effectively stop (arrest) a worker who is falling. If it is determined that a PFAS is the best method of fall protection, it must:

- Be inspected prior to each use
- Prevent a freefall exceeding 6 feet
- Be set up to prevent contact with a lower level
- Bring a worker to a complete stop
- Limit the maximum deceleration distance a worker travels to 3.5 feet

3 parts of an effective fall arrest system include

- Anchorage point
- Body Harness
- Connectors such as snap hooks, lanyards, etc.

Image courtesy osha.gov



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Positioning Device Systems

Positioning devices hold workers in place while they perform work on vertical surfaces including rebar, towers and formwork. Positioning devices allow workers to lean back and work with both hands.

When using positioning devices:

- Set up so worker can free fall no farther than two feet
- Device must be secured to anchorage capable of supporting at least twice the potential impact load of a fall or 3,000 pounds, whichever is greater
- Industry best practice is to be connected to an approved PFAS as a secondary means of protection

Photo courtesy [Texas Department of Insurance](#)



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Fall Restraint Systems

Fall restraint systems prevent workers from reaching the fall hazard. When used effectively, the worker's connector is set at a predetermined length to restrain workers from the identified hazard; and **will not allow a fall of any distance**.

It is suggested that fall restraint systems have the capacity to with stand, at least 3,000 pounds or twice the maximum expected force that is needed to restrain the worker from the hazard.

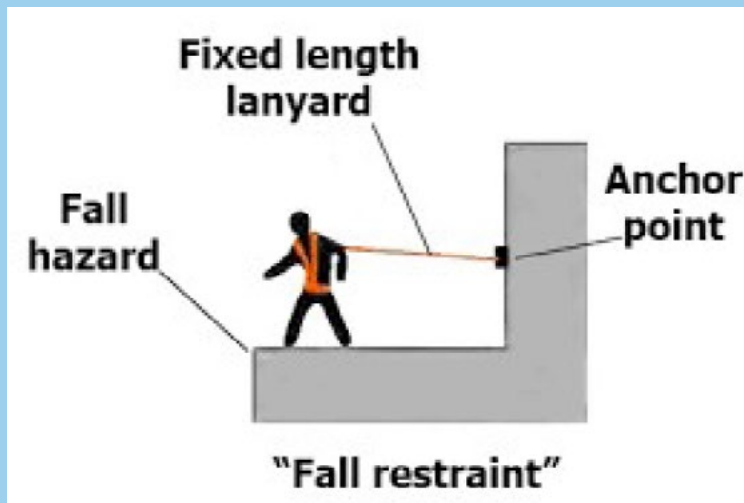


Diagram courtesy [Texas Department of Insurance](#)

Photo courtesy [Flickr.com/Western Area Power Administration](#)



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Alternative Types of Fall Protection

Controlled Access Zone

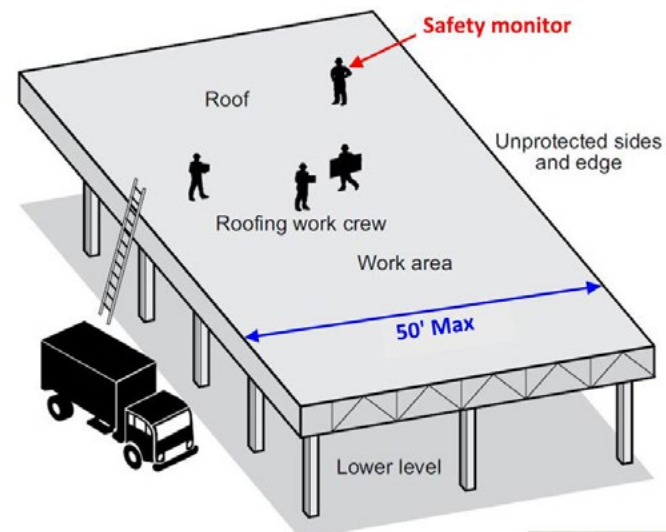
- A designated and clearly marked work zone where certain types of construction activities may take place without the use of conventional fall protection systems (e.g. guardrail, personal fall arrest system, or safety net). CAZ are setup to protect employees working in the area and can have different distance requirements based on the scope of work. Types of work where controlled access zones might be utilized could include; leading edge work, pre-cast concrete erection, overhand bricklaying and residential construction.

Safety Monitor System

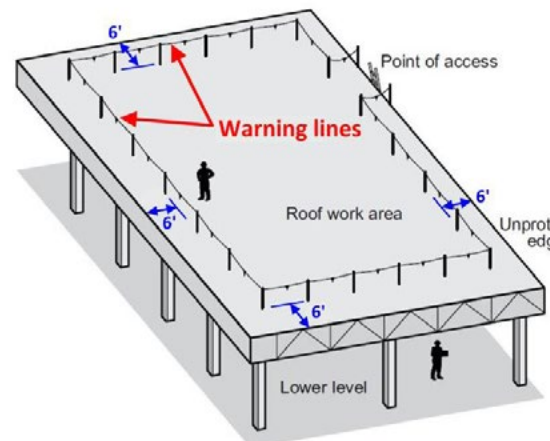
- Safety monitoring systems are an alternate method of fall protection for low slope roofing work, precast concrete erection work or other leading edge work. This system must designate a competent person who would be responsible for recognizing and warning employees of all hazards. SMS is not a preferred method of protection and is usually used when other means of protection are infeasible.

Warning Line Systems

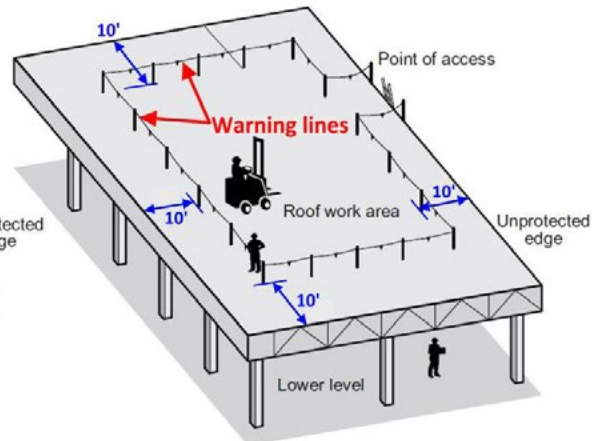
- A barrier erected on a roof top to warn workers that they are approaching an unprotected roof side or edge. This system is used to designate a roof top area where employees may work without the use of conventional fall protection systems (e.g. guardrail, personal fall arrest system, or safety net). The WLS consists of ropes, wires, or chains, plus supporting stanchions and can also be used in combination with safety nets, guardrails and safety monitoring systems.



Roof slope = 2:12 or less



Warning-line system where no mobile equipment is used



Warning-line system where mobile equipment is used

Roof slope = 2:12 or less

Images courtesy Oregon OSHA

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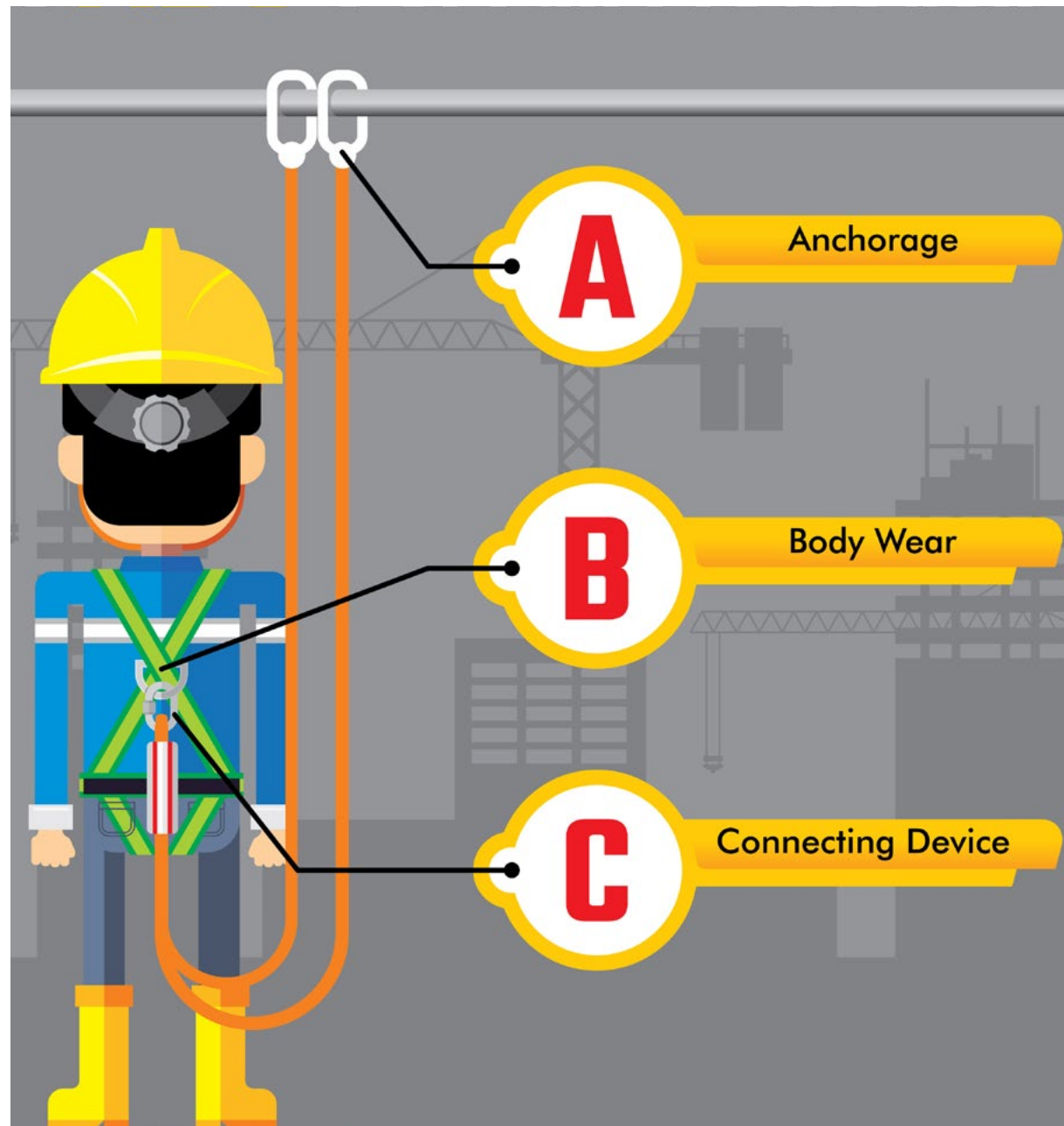


ABCs of Fall Protection

All components of an active system work together to stop or “arrest” a worker while falling. Components in use need to be inspected prior to each use.

Components include:

- **A**nchorage / Anchorage Connector
- **B**ody Harness
- **C**onnectors



ABCs of Fall Protection

Anchorage

Anchorage and anchorage connectors, also referred to as tie-off points, can vary from job-to-job. Typical anchorage points are a strong structural member of a building. When attaching a PFAS to anchorage; the design, installation, and use; must be overseen by a qualified person.

Anchorage connectors can be temporary or permanent. Examples include:

- Engineered Clamp (beam glide, trolley beam anchor)
- Strap Anchors (beam straps)
- Concrete Anchors
- [Vertical Lifelines](#)
- [Horizontal Lifelines](#)

Where possible, connect to an approved anchor point directly above the dorsal D-ring to reduce the potential free fall or swing distance.

Image courtesy CDC (OSHA)/NIOSH/CPWR

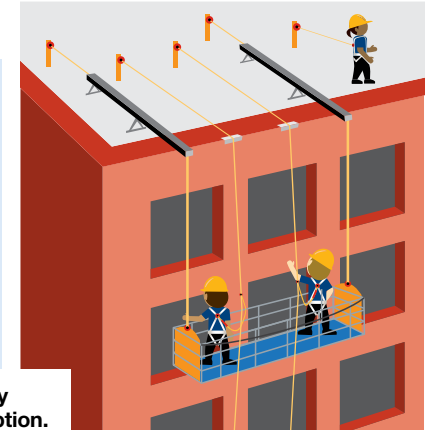
Choosing the Right Anchorage

for your personal fall arrest system

DO USE: Certified anchorages that meet or exceed OSHA regulations.

All anchorages should be:

- Designed before construction begins
 - Independent of anchorages used to suspend other employees or work platforms
- AND**
- Properly marked and rated for 5,000 lbs per employee attached
- OR**
- Designed, installed, and used under supervision of a qualified person, as part of a complete personal fall protection system that maintains a safety factor of at least 2



Engineered anchor point systems typically exceed regulations and are the **safest option.**

- Engineered anchorages can be temporary or permanent:
 - If temporary, use an anchorage structure that is strong, secure and immobile, such as a secured I-beam.
 - If permanent, they can be used after construction for window washing and maintenance.
- They may not be designed for use with horizontal lifelines. Talk to a competent person to determine if a leading edge solution is required.
- When engineered anchor points are unavailable, existing support beams, columns, or other structures may be used, but be careful! Don't use an existing structure unless you are sure the structure will support at least 5,000 lbs per employee.

PLAN. PROVIDE. TRAIN.

Three simple steps to preventing falls.



For more information on fall prevention, visit: stopconstructionfalls.com

DON'T USE bad anchor points, such as:

- Vents or stand pipes
- Railings/guardrails
- Air vents/ductwork
- Fixed ladders
- Electrical conduits
- Air conditioning units
- Skylights/light fixtures

Join the Campaign to Stop Construction Falls!

www.stopconstructionfalls.com



Source: OSHA CFR 1910.140(c)(12), 1910.140(c)(13). <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.140>.

#StandDown4Safety

July 2020

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ABCs of Fall Protection

Body Wear

Full body harness includes: shoulder, chest, and leg straps; and at least one D-ring. Straps can have adjustable buckles or fasteners depending on manufacturer. Some harnesses also include a body belt.

- The D-ring between the shoulder blades is used with a connector to arrest a fall. D-rings can be in other positions of a harnesses for use with positioning devices and ladder safety devices.
- When a harness is properly donned and adjusted, the D-ring will be between the top of the shoulder blades. The leg straps will be snug around the thighs.
- Harnesses come in different sizes and have weight restrictions. It is important to add any toolbelts, tools, and gear employees wear for total weight. Follow manufacturers guidelines when selecting proper harnesses, and use Nationwide's [Harness Inspection Checklist](#) to help verify that the harness is in proper condition for use.

Loss Control Services
Proper Donning of Safety Harnesses



Proper Donning of Safety Harnesses



Harnesses must be inspected, maintained, and stored as instructed by manufacturer. Employee must be trained in the proper use of fall protection they will be using.

1. Hold the harness by the D-ring and shake it out. Let the leg straps hang down and make sure they are not tangled.
2. Pull straps over shoulders like a jacket so the D-ring is between the shoulder blades.
3. Adjust strap for proper fit.
4. Pull chest straps and fasten. Adjust strap to snug fit.
5. Pull leg strap over through legs and over thigh and fasten.
6. Adjust strap to be snug on thigh.
7. The D-ring should be in between your shoulder blades after adjustments.

Visual Inspection:
Before each use, personal harnesses must be inspected for signs of defects from use and environment.

- Inspect harness for; loose or broken stitching, cuts, burn marks, or any evidence that would lead you to believe the strapping has been weakened.
- Inspect harness components; D-rings, quick connect buckles, friction buckles, locking cams, snap hooks, and grommets.

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ABCs of Fall Protection

Connecting Devices

Connecting devices are used to attach the Full Body Harness to the Anchorage point. There are many options to consider when selecting connecting devices. The type of connecting device will vary depending on scope of work and fall hazards.

Examples include:

- Shock absorbing lanyards
- Self-retracting lifelines/lanyards
- Snap hooks

Special Considerations:

Ensure that snap hooks are rated for Transverse loading when connections are not oriented in the direction of the load (e.g. diagonal or at a right angle).



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Fall Distance

Per OSHA, the total fall clearance distance is the minimum vertical distance between the worker and the lower level that is necessary to ensure the worker does not contact a lower level during a fall. Your evaluation should also include the identification of potential swing hazards employees could be exposed to.

The total fall clearance distance is calculated before a decision is made to use a PFAS. If the available distance is not greater than the total fall clearance distance, it is inappropriate to use the PFAS and a fall restraint system might be used instead.

Total fall clearance distance calculations can include:

- Lanyard length
- Relative position of D ring (above, even or below) in relation to Anchor Point
- Deceleration distance – this is the distance the lanyard stretches (absorbs energy) in order to arrest the fall
- The worker's height
- D-ring shift or harness elongation
- Safety factor

Refer to [OSHA's Technical Manual](#) for total fall distance calculation formula. Refer to specific SRL Manufacturing Instructions for clearance requirement calculations.

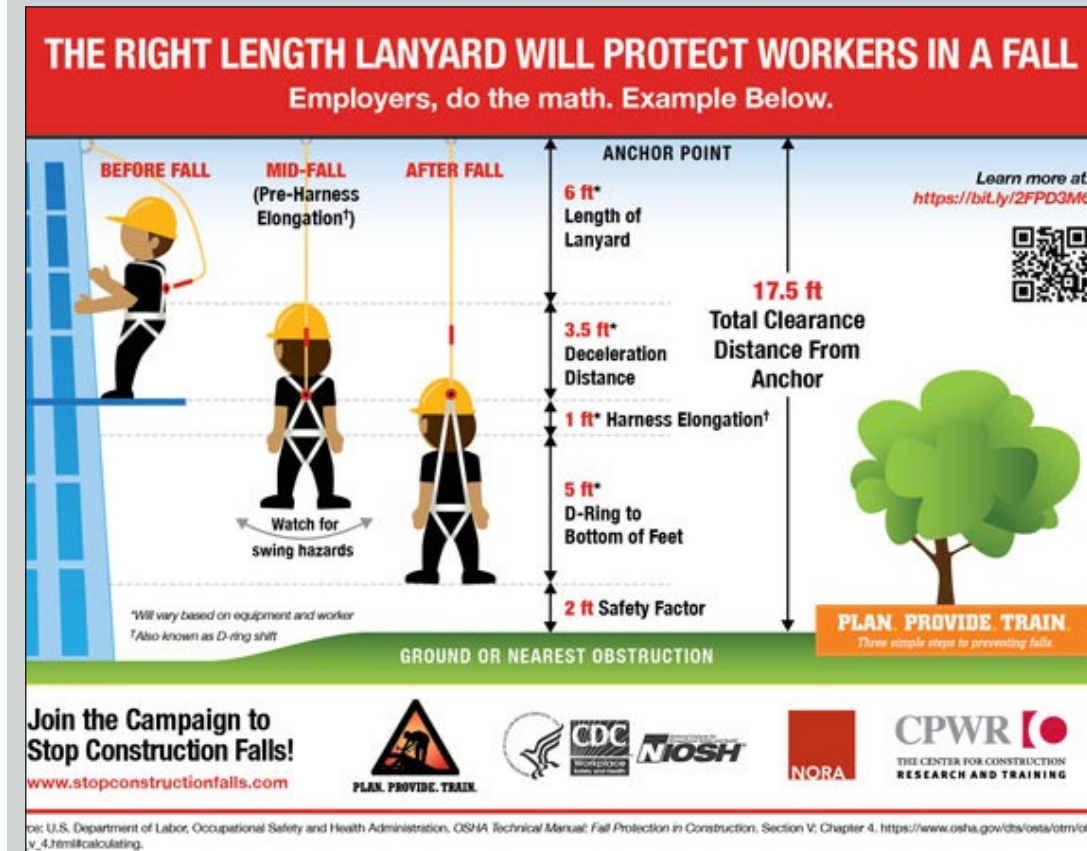


Image courtesy CDC (OSHA)/NIOSH/CPWR

Responding to Falls

Fall rescue plans are frequently overlooked when developing site-specific fall prevention plans. Speed of rescue is critical after a fall, as suspension in a fall arrest device can cause unconsciousness or death in less than 30 minutes.

A recent CPWR¹ survey found that the odds of a fall being fatal were 76% lower for those who had self-rescue training compared to those who did not have this training.

Pre-planning is critical to an effective emergency response plan. All rescue plans should include general emergency response procedures, and be tailored to the specific jobsite and hazards present.

Key components of your plan could include:

- Identifying potential emergencies that could affect the jobsite to include; heights, locations, terrain, surrounding hazards, conditions that may hinder rescue, etc.
- Ensuring first aid supplies are on hand and train employee to identify signs and symptoms of suspension trauma

¹[CPWR Survey on Underlying Causes of Falls from Heights](#)



Responding to Falls, Cont.

Other key components of your plan could include:

- Identifying emergency access and exit routes
- Establishing a chain of command
- Training on-site responders
 - Ensure only trained responders attempt technical rescue
- Identifying critical resources and ensure adequate rescue equipment is available
- Providing employee training on rescue techniques
- Evaluating the purchase of specialized equipment such as trauma relief straps for fall protection harnesses.
- Creating procedures for reporting and responding to emergencies
 - How and who to report emergencies to
 - How to provide first aid
 - How to safely rescue a suspended worker

Rescue Plans to Prevent Suspension Trauma: [CDC infographic](#)



Inspecting and Maintaining Equipment

Equipment used as part of a personal fall arrest systems (PFAS) need to be stored properly to maintain the integrity of components. Equipment must have a designated storage area that will protect components from:

- Sun
- Water
- Hot work (sparks, slag, flames)

PFAS shall be inspected prior to each use for:

- Wear
- Damage
- Other deterioration
- Impact indicators

PFAS need to be inspected in accordance with manufacturer’s specifications or annually at minimum. Defective components shall be removed from service.

Refer to OSHA State plans for specific inspection requirements.

Sample Harness Inspection Checklist

Insert Your Company Logo Here

Harness Serial Number: _____

Harness Model: _____

Purchase Date: _____

Inspection Date: _____

Inspected By: _____

Harness	Pass	Fail	Comments
1. D-rings, buckles, pads, grommets, keepers, belt ends: Are components in good condition and working properly?	<input type="radio"/>	<input type="radio"/>	
2. Webbing: Are cuts, burns, frays, abrasion present?	<input type="radio"/>	<input type="radio"/>	
3. Stitching: Is stitching missing or cut?	<input type="radio"/>	<input type="radio"/>	
4. Labels: Are labels secure and legible?	<input type="radio"/>	<input type="radio"/>	
5. Other: _____	<input type="radio"/>	<input type="radio"/>	
6. Other: _____	<input type="radio"/>	<input type="radio"/>	

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Sample Fall Protection Program Template

Nationwide understands that reducing falls will require effort from all levels within the company from senior leadership to the employee level. Developing a company specific fall protection program is a critical step towards reducing falls. [This template](#) can be customized to meet your specific needs and will help:

- Demonstrate ownership's commitment to stopping falls
- Provide accountability and consistency
- Implement required training
- Provide a reference point for guidance

Any successful safety program must include provisions for continuous monitoring and improvement. It is recommended that your program be reviewed regularly to ensure it is up to date with new or changing regulations and to identify potential opportunities for improvement. Program reviews can include:

- A regular review of OSHA fall protection standards with a focus on updates or interpretations
- Jobsite audits to ensure the program covers needed areas for fall protection
- Solicitation of feedback from employees and field supervisors
- Accident trending and investigations including near misses

Site Specific Fall Protection Plan

A key step in the fall protection program is the development and implementation of a fall protection plan. OSHA requires a plan when conventional fall protection systems are infeasible* or create a greater hazard for leading edge work, pre-cast concrete erection or residential construction work. However, a **best practice** should be to incorporate a [written fall protection plan](#) for any projects that contain fall hazards.

- The plan shall be created by a person qualified in the identification of fall protection hazards and prevention methods
- Assign a competent person for plan implementation and enforcement
- The plan should be site specific and tailored to the hazards and operating environment for your particular project
- The plan must be updated when jobsite conditions or tasks change
- Maintain a copy of the plan and approved changes at the jobsite
- Ensure your plan includes a provision for site specific rescue

* [https://www.osha.gov/laws-regs/interlinking/standards/1926.502\(k\)\(1\)/regulations](https://www.osha.gov/laws-regs/interlinking/standards/1926.502(k)(1)/regulations)

Sample Site Specific Fall Protection Plan

(Company Name)

This plan is not in lieu of fall protection plan required by OSHA when conventional fall protection systems are infeasible or creates a greater hazard for leading edge work, precast concrete erection work, or residential construction work. [Follow this link](#) for required OSHA compliance details.

This Fall Protection Plan is specific to the following project:

Job Location:	
Date Plan Prepared:	
Date Plan Modified:	
Plan Prepared by:	
Plan Approved by:	
Plan Supervised by:	

STATEMENT OF COMPANY POLICY

(Company Name) is dedicated to the safety of its employees. All employees of *(Company Name)* have the responsibility to work safely on the job. The purpose of this Plan is to supplement our existing Fall Protection Program to ensure we have identified hazards specific to this jobsite and implemented controls to mitigate to an acceptable level. Employees who work for *(Company Name)* can recognize workplace fall hazards and takes the appropriate measures to address those hazards.

ASSIGNMENT OF RESPONSIBILITY

Employer

- Ensure that all employees understand and adhere to the procedures of this Plan and the instructions of the crew supervisor or foreman.
- Assign a competent person to be responsible for managing this Fall Protection Plan.
- Provide appropriate fall protection to employees as detailed in this Plan.

Employee

- Bring to the attention of *(Company)* management any unsafe or hazardous conditions or practices that may cause injury to themselves or other employees.
- Report any incident which causes injury to self or a co-worker.
- Each employee will be trained in these procedures and will be expected to strictly adhere to them except when doing so would expose him/her to a greater hazard. If, in the employee's opinion, the procedures in this Plan pose a risk, the employee is to notify *(Competent Person)* and have their concern addressed before proceeding with work.

Glossary

- **Anchorage:** A secure point of attachment for lifelines, lanyards, or deceleration devices.
- **Authorized Person:** A **person** approved or assigned by the employer to perform a specific type of duty or duties or to be at a specific location or locations at the jobsite.
- **Body Belt:** A strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device.
- **Body Harness:** Straps that may be secured about the person in a manner that distributes the fall-arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with a means for attaching the harness to other components of a personal fall arrest system.
- **Competent Person:** One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to stop work and take prompt corrective measures to eliminate them.

Glossary

- **Connector:** A device that is used to couple (connect) parts of a personal fall arrest system or positioning device system together.
- **Controlled Access Zone:** A work area designated and clearly marked in which certain types of work (such as overhand bricklaying) may take place without the use of conventional fall protection systems (guardrail, personal arrest or safety net) to protect the employees working in the zone.
- **Deceleration Device:** Any mechanism, such as rope, grab, ripstitch lanyard, specially-woven lanyard, tearing or deforming lanyards, and automatic self-retracting lifelines/lanyards, which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limits the energy imposed on an employee during fall arrest.
- **Deceleration Distance:** The additional vertical distance a falling person travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which a deceleration device begins to operate.

Glossary

- **Guardrail System:** A barrier erected to prevent employees from falling to lower levels.
- **Hole:** A void or gap two (2) inches or more in the least dimension in a floor, roof, or other walking/working surface.
- **Infeasible:** Means that it is impossible to perform the construction work using a conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection.
- **Lanyard:** A flexible line of rope, wire rope, or strap that generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.
- **Leading Edge:** The edge of a floor, roof, or formwork for a floor or other walking/working surface (such as a deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed.

Glossary

- **Lifeline:** A component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), that serves as a means for connecting other components of a personal fall arrest system to an anchorage.
- **Low Slope Roof:** A roof having a slope less than or equal to 4 in 12 (vertical to horizontal).
- **Personal Fall Arrest System:** A system including but not limited to an anchorage, connectors, and a body harness used to arrest an employee in a fall from a working level.
- **Positioning Device System:** A body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning backwards.

Glossary

- **Qualified:** One who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.
- **Rope Grab:** A deceleration device that travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest a fall.
- **Safety Monitoring System:** A safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.
- **Self-Retracting Lifeline / Lanyard:** A deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under minimal tension during normal employee movement and which, after onset of a fall, automatically locks the drum and arrests the fall.

Glossary

- **Snaphook:** A connector consisting of a hook-shaped member with a normally closed keeper, or a similar arrangement, which may be opened to permit the hook to receive an object and, when released automatically, closes to retain the object.
- **Steep Roof:** A roof having a slope greater than 4 in 12 (vertical to horizontal).
- **Suspension Trauma (Orthostatic Intolerance):** A condition that may occur when a person falls and remains sedentary for some time. Blood pools in the veins of the legs, which could result in unconsciousness. If a person is not rescued quickly, permanent damage and possibly death may result.
- **Toeboard:** A low protective barrier that prevents material and equipment from falling to lower levels and which protects personnel from falling.

Glossary

- **Unprotected Sides and Edges:** Any side or edge (except at entrances to points of access) of a walking/working surface (e.g., floor, roof, ramp, or runway) where there is no wall or guardrail system at least 39 inches (1 meter) high.
- **Walking/Working Surface:** Any surface, whether horizontal or vertical, on which an employee walks or works, including but not limited to floors, roofs, ramps, bridges, runways, formwork, and concrete reinforcing steel. Does not include ladders, vehicles, or trailers on which employees must be located to perform their work duties.
- **Wall Opening:** A gap or void 30 inches (76 centimeters) or higher and 18 inches (46 centimeters) or wider, in a wall or partition, through which employees can fall to a lower level.
- **Warning Line System:** A barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems to protect employees in the area.