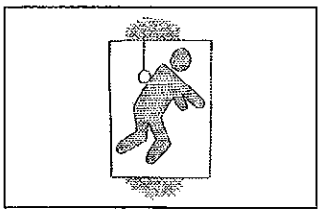


Fall Protection—An Overview

Overview of Topic

In construction work, falls are the leading cause of worker fatalities. Each year between 150 and 200 workers die and more than 100,000 are injured as a result of falls at construction sites. The fall protection rule deals with both employee and equipment issues in protecting workers from falls.

Employers need to:

- Select systems and equipment appropriate for the situation.
- Properly construct and install safety systems.
- Train workers in the proper selection, use, and maintenance of fall protection systems.

Employees need to:

- Use safe work practices.
- Use fall protection equipment properly.
- Always wear provided fall protection equipment.

Who does the rule apply to?

Note: Fall protection requirements for scaffolds (including aerial lifts), cranes & derricks, steel erection, tunneling operations, electric transmission and distribution lines and equipment work, and stairways and ladders are found in other subparts in the construction regulations.

The fall protection rule covers most construction workers except those inspecting, investigating, or assessing workplace conditions prior to the actual start of work or after all work is done.

The rule identifies areas or activities where fall protection is needed. These include: (1) ramps, runways, and other walkways, (2) excavations, (3) hoist areas, (4) holes, (5) formwork and reinforcing steel, (6) leading edge work, (7) unprotected sides and edges, (8) overhand bricklaying and related work, (9) roofing work, (10) precast concrete erection, (11) wall openings, (12) residential construction, and (13) other walking/working surfaces.

What is the threshold height?

The rule sets a uniform threshold height of six feet. This means you must protect your employees from fall hazards whenever an employee is working six feet or more above a lower level.

Protection must also be provided for construction workers who are exposed to the hazard of falling into dangerous equipment. Each employee less than six feet above dangerous equipment must be protected from falling by a guardrail system or equipment guard. If the employee is six feet or more above the equipment, the protection must be either guardrail, personal fall arrest, or a safety net system.

Selection of equipment

Employers can select fall protection measures and equipment compatible with the type of work being performed. Fall protection can generally be provided through the use of guardrail, safety net, personal fall arrest, positioning device, and warning line systems.

Employer responsibility

The OSHA rule clarifies what an employer must do to provide fall protection for employees, such as identifying and evaluating fall hazards and providing specific training.

Provisions of the standard

The fall protection rule specifies the: (1) areas and operations where fall protection systems are required, and the options you have to provide the protection (1926.501), (2) criteria for the fall protection systems you choose (1926.502), and (3) required training (1926.503).

Employee Training

In addition to the "general" construction training rule (1926.21(b)(2)), OSHA has specified training requirements for employees exposed to fall situations. Accordingly, 1926.503 identifies required training components, but does not specify training program details.

Training Tips

Ensure your employees know and can recognize the hazards of the fall situations they are in, and the procedures they must follow in order to minimize the hazards.

Where To Go For More Information

Regulatory text: 29 CFR 1926.500-503.

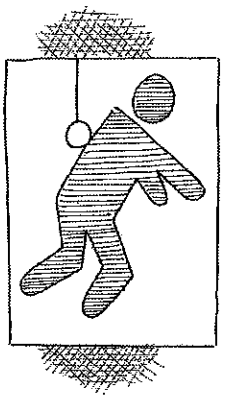
KELLER'S CONSTRUCTION TOOLBOX TALKS

Fall Protection—An Overview

Falls are the leading cause of construction worker fatalities. Each year between 150 and 200 workers die and more than 100,000 are injured as a result of falls at construction sites. Special trade contractors, such as roofers, carpenters, and structural steel erectors, accounted for half of the fatal falls. Knowing and implementing the following rules will help protect you from such a fall.

Who does the rule apply to?

The fall protection rule covers most construction workers. OSHA exempts those who inspect, investigate, or assess workplace conditions prior to the actual start of work or after all work is done. This is because their exposure to fall hazards are for very short durations, if at all.



The rule identifies areas or activities where fall protection is needed. These include: (1) ramps, runways, and other walkways, (2) excavations, (3) hoist areas, (4) holes, (5) formwork and reinforcing steel, (6) leading edge work, (7) unprotected sides and edges, (8) overhand bricklaying and related work, (9) roofing work, (10) precast concrete erection, (11) wall openings, (12) residential construction, and (13) other walking/working surfaces.

What is threshold height?

Threshold height is that height where your employer must provide fall protection for the areas or activities described above. For this fall protection rule that height is six feet. At that height your employer must provide the equipment and training required to protect you from falling off, onto, or through working levels that are six feet or more above lower levels.

Selection of equipment

Under the fall protection rule, employers can select fall protection measures and equipment to fit the type of work you are doing. The three most common methods of providing fall protection are guardrails, safety nets, or personal fall arrest systems.

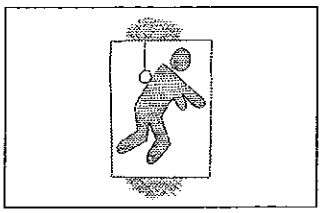
Training

Your employer must provide training, taught by a competent person, any time you could be exposed to fall hazards. The training must include: (1) recognizing and minimizing fall hazards, (2) procedures for erecting, maintaining, disassembling, and inspecting the fall protection equipment you will use, and (3) an understanding of the OSHA fall protection rules.

What the rule contains

The fall protection standard has three elements that are important to you. They are: (1) situations at your worksite that require protection from falling (1926.501), (2) different types of fall protection equipment and systems your employer can use to provide you protection (1926.502), and (3) training requirements (1926.503).

Always use all fall protection systems and equipment your employer provides, it could save your life.



Fall Protection — An Overview, Sign-Off Sheet

This sign-off sheet documents the names of employees who attended this training session on Fall Protection—An Overview at _____.
(company name)

The session covered:

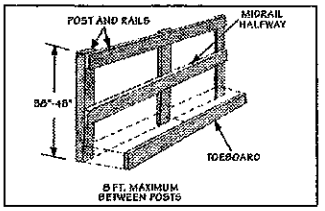
- Who the fall protection rule applies to.
- What the threshold height is for the fall protection rule.
- Employer responsibility to identify and evaluate fall hazards and providing specific training for those situations.
- Provisions of the fall protection rule—what the rule offers employers and employees.

The space below is for employees to "sign-off" that they were in attendance.

Date of Training: _____ **Job Location:** _____

Employee Signature	**Print Name Here**

_____
Supervisor's Signature



Fall Protection—Equipment & Systems

Overview Of Topic

You must provide and install all required fall and falling object protection before your employees begin work. OSHA's intent is that fall protection systems be in place at the earliest possible time when there is potential exposure to fall hazards. The equipment and systems must comply with fall protection rules at 1926.502—Fall protection systems criteria and practices. The three most common (primary) methods of providing fall protection are guardrails, safety nets, and personal fall arrest systems.

Guardrails

Guardrails are barriers put up to prevent falls to a lower level. They can be used to protect employees from falls from unprotected sides and edges; during leading edge work; through holes including skylights; from ramps, runways, or other walkways; and into or onto dangerous equipment.

Safety nets

Safety nets are used as protection at unprotected sides, leading edges, working on the face of formwork or reinforcing steel, overhead or below surface bricklaying, work on roofs, precast concrete work, residential construction, and wall openings. Safety nets must be installed as close as practicable under the walking/working surface on which employees are working, but never more than 30-feet below that level.

Personal fall arrest equipment

Note: Effective January 1, 1998:

- Body belts are not acceptable as part of a personal fall arrest system. Body belts are acceptable in positioning device systems.

  Fall restraint (Positioning device system) means a body belt or body harness used to prevent an employee from free falling more than two feet and where self rescue can be assured. It consists of an anchorage, connectors, a body belt or harness and may include a lanyard, deceleration device, lifeline, or suitable combination of these.

- Only locking type snaphooks can be used.

Personal fall arrest equipment protects you from falling when working around unprotected sides and edges, leading edge work, hoist areas when loading or unloading materials, form and reinforcing steel work, overhead or below surface bricklaying, work on low-sloped or steep roofs, precast concrete work, residential construction, and wall openings.

Other fall protection systems

The fall protection rule lists other (secondary) systems and equipment you can use in certain situations. They are:

- *Safety monitoring system*—Used when working on low-slope roofs only. It must be used with a warning line system.
- *Covers*—required for holes, including skylights.
- *Warning lines*—must be must be erected around all sides of the roof work area and shall consist of ropes, wires, or chains, and supporting stanchion.
- *Positioning devices*—used on the face of formwork or reinforcing steel structures and other situations where hands must be free to work.
- *Controlled access zones*—shall consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions. Each line must be flagged or otherwise clearly marked at not more than 6-foot intervals with high-visibility material.
- Protection from falling objects.
- *Fall protection plan*—available only to employees doing leading edge, precast concrete erection, or residential construction.

Employee Training

Section 1926.503 sets certain criteria for your employees who are required to use fall protection equipment and systems. The training requires you to provide a program for each employee exposed to fall hazards. You must train your employees to recognize the hazards of falling and the procedures they should follow in order to minimize the hazards.

Training Tips

Select different pieces of equipment or fall protection system that your company uses to demonstrate.

Where To Go For More Information

29 CFR 1926.502—Fall protection systems criteria and practices.

29 CFR 1926.21(b)(2)—Safety training and education, employer responsibility.

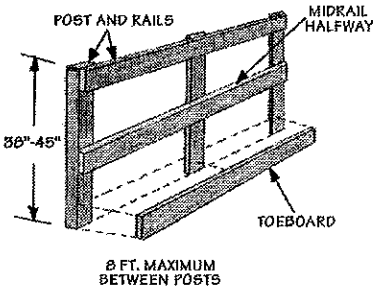
KELLER'S CONSTRUCTION TOOLBOX TALKS

Fall Protection—Equipment and Systems

Before you begin work on a project that requires fall protection (whenever you are working six feet or more above a lower level), your employer must provide all required fall protection equipment, and install all required fall and falling object protection systems.

The equipment and systems must comply with the OSHA fall protection rules at 1926.502.

The three most common methods of providing fall protection are guardrails, safety nets, and personal fall arrest systems. These are referred to as primary systems.



Guardrails

Guardrails are barriers put up to prevent falls to a lower level. They can be used to protect you from falls: from unprotected sides and edges; during leading edge work; through holes—including skylights; from ramps, runways, or other walkways; and into or onto dangerous equipment.

Safety nets

Safety nets are used as protection at unprotected sides, leading edges, working on the face of formwork or reinforcing steel, overhead or below surface bricklaying, work on roofs, precast concrete work, residential construction, and wall openings.

Personal fall arrest equipment

Note: Effective January 1, 1998:

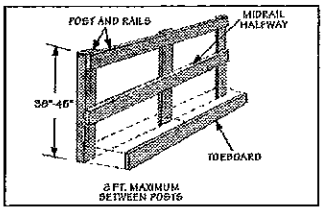
- Body belts are not acceptable as part of a personal fall arrest system. Body belts are o.k. when used as positioning devices.
- Only locking type snaphooks can be used.

Personal fall arrest equipment protects you from falling when working around unprotected sides and edges, leading edge work, in hoist areas when loading or unloading materials, form and reinforcing steel work, overhead or below surface bricklaying, work on low-sloped or steep roofs, precast concrete work, residential construction, and wall openings.

Other fall protection systems

The fall protection rule lists other systems and equipment you can use in certain situations. Some of them are safety monitoring systems, warning lines, and positioning devices.

In order to use any of the systems and equipment described above, you must be trained to do so by your company "competent person." That person must be qualified to teach you those systems and equipment you will be using.



Fall Protection—Equipment & Systems Sign-Off Sheet

This sign-off sheet documents the names of employees who attended this training session on Fall Protection—Equipment and Systems at _____.
(company name)

The session covered:

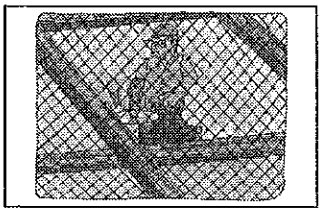
- The need for fall protection to be in place before your employee begins a project.
- Fall protection equipment and systems complying with the fall protection rules at 1926.502.
- The three most common methods (primary systems) of providing fall protection are: guardrails, safety nets, and personal fall arrest systems.
- Types of equipment that will no longer be acceptable after December 31, 1997.

The space below is for employees to "sign-off" that they were in attendance.

Date of Training: _____ **Job Location:** _____

Employee Signature	**Print Name Here**

_____
Supervisor's Signature



Fall Protection—Falling Object Protection

Overview of Topic

The falling object protection rules require you to take measures to protect employees exposed to falling object hazards. Although the fall protection rule doesn't mention hard hats, they are the number one defense against overhead hazards, including falling objects. However, just as in the scaffold rule, you must use hard hats and an additional method of protection described in the regulations.

This OSHA provision applies when there are employees below a walking/working surface or wall opening from which an object could fall.

Falling object protection alternatives

OSHA provides a number of falling object protection methods to select from depending on your need. Your choices are toeboards and screens, guardrails, protective canopies, signs, barricades, or simply moving the objects away from an edge a distance sufficient to prevent them from falling should they accidentally be moved.

Falling object protection methods

Guardrails—When guardrails 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.

Toeboards—When toeboards are used as protection from falling objects, they must be erected along the edges of the overhead walking/working surface for a distance sufficient to protect persons working below.

To ensure a toeboard can stop falling objects, they must be capable of withstanding a force of at least 50 pounds applied in any downward or outward direction at any point along the toeboard.

Toeboards must be a minimum of 3.5 inches tall from their top edge to walking/working surface, have no more than 0.25 inches clearance above the walking/working surface, and be solid or have openings no larger than one inch.

Where tools, equipment, or materials are piled higher than the top edge of a toeboard, panelling or screening must be erected from the walking/working surface or toeboard to the top of a guardrail system's toprail or midrail, for a distance sufficient to protect employees below.

Materials storage—To prevent tripping hazards, no materials or equipment, except masonry and mortar, can be stored within four feet of working edges. Excess mortar, broken or scattered masonry units, and all other materials and debris must be kept clear of the working area by removing regularly.

During roofing work, materials and equipment cannot be stored within six feet of a roof edge unless guardrails are erected at the edge. Materials piled, grouped, or stacked near a roof edge must be stable and self-supporting.

Canopies—When used as a protection from falling objects, canopies must be strong enough to prevent collapse and prevent penetration by any objects that may fall onto them.

Employee Training

29 CFR 1926.503 are the training requirements for fall protection. Specifically, 1926.503(a)(2)(vi) requires training in the correct procedures for the handling and storage of equipment/materials, and the erection of overhead protection.

Training Tips

Demonstrate the most frequently used methods for overhead protection at your company's jobsites. You may also want to practice setting up some infrequently used methods, such as canopies.

Where To Go For More Information

Regulatory text: 29 CFR 1926.502(j).

KELLER'S CONSTRUCTION TOOLBOX TALKS

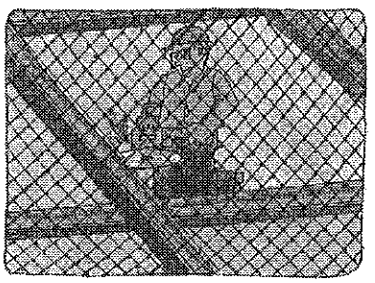
Fall Protection—Falling Object Protection

The OSHA fall protection rule also covers falling object protection. The rule requires your employer to take measures to protect you from falling objects.

Hard hats are the number one defense against overhead hazards including falling objects. However, hard hats are not enough. An additional method of protection, described in this toolbox talk, must be used when there are employees working or walking below.

Falling object protection alternatives

OSHA provides a number of falling object protection methods to select from, depending on your company's need. The choices are toeboards and screens, guardrails, canopies, signs, barricades, or simply moving objects away from the edge.



Falling object protection methods

Guardrails—When guardrails 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.

Toeboards—When toeboards are used as protection from falling objects, they must be erected along the edges of the overhead walking/working surface for a distance sufficient to protect persons working below.

To ensure a toeboard can stop falling objects, it must be capable of withstanding a force of at least 50 pounds applied in any downward or outward direction anywhere along the toeboard.

Toeboards must be a minimum of 3.5 inches tall, have no more than 0.25 inches clearance above the surface, and be solid or have openings no larger than one inch.

Where tools, equipment, or materials are piled higher than the top edge of a toeboard, panelling or screening must be erected from the walking/working surface or toeboard to the top of a guardrail's top rail or midrail, for a distance sufficient to protect employees below.

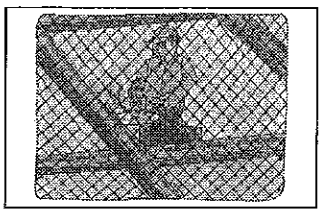
Materials storage—To prevent tripping hazards, no materials or equipment, except masonry and mortar, can be stored within four feet of working edges.

Excess mortar, broken or scattered masonry units, and all other materials and debris must be kept clear of your working area by removing regularly.

During roofing work, materials and equipment cannot be stored within six feet of a roof edge unless guardrails are erected at the edge. Materials near a roof edge must be stable and self-supporting.

Canopies—When used as a protection from falling objects, canopies must be strong enough to prevent collapse or penetration by objects that may fall onto them.

Being hit by falling objects at construction sites is not only possible but probable at some point in your career. Being prepared is the best defense against serious injury.



Fall Protection—Falling Object Protection, Sign-Off Sheet

This sign-off sheet documents the names of employees who attended this training session on Fall Protection—Falling Object Protection at _____.
(company name)

The session covered:

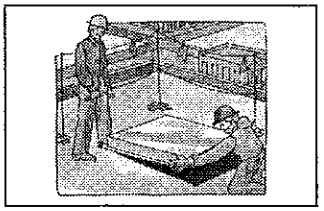
- The company's duty to provide falling object protection.
- Worksite assessments.
- Selecting the proper falling object protection system.

The space below is for employees to "sign-off" that they were in attendance.

Date of Training: _____ **Job Location:** _____

Employee Signature	**Print Name Here**

_____
Supervisor's Signature



Fall Protection—Floor/Wall Opening

Overview Of Topic

Employees working on construction sites need to be especially careful when working around floor and wall openings. OSHA defines these openings as:

- Hole — a gap or void 2 inches or more in its least dimension, in a floor, roof, or other walking/working surface.
- Opening — a gap or void 30 inches or more high and 18 inches or more wide, in a wall or partition, through which employees can fall to a lower level.

Objects, such as tools or parts, may fall through the holes and strike people or damage machinery on lower levels.

Protect employees on walking/working surfaces from:

- Falling through holes (including skylights) more than six feet above lower levels by personal fall arrest systems, covers, or guardrail systems erected around the holes;
- Tripping in or stepping into or through holes by covers; and
- Objects falling through holes by covers.

Covers

Covers which comply with the regulations will protect employees from the hazards of holes. The following cover requirements apply:

- Covers located in roadways must be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle expected to cross over the cover.
- All other covers must be capable of supporting, without failure, at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time.
- All covers must be secured when installed to prevent accidental displacement by the wind, equipment, or employees.
- All covers must be color-coded or marked with the word "HOLE" or "COVER" to provide warning of the hazard.

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 six-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.

OSHA believes the most practical method of compliance for wall openings is the guardrail system because it provides protection at all times and for all employees who may have exposure at the wall opening.

Employee Training

The fall protection training section of the rule identifies components of the required training, but does not specify the details of the training program.

You are required to:

- Provide a program for each employee exposed to fall hazards and a competent person must train your employees to recognize the hazards of falling and the rules they should follow to minimize the hazards (see 29 CFR 1926.500(a)(2) for the specific requirements for your competent person);
- Prepare a written certification record according to 29 CFR 1926.500(b)(1); and
- Retrain according to 29 CFR 1926.500(c).

Training Tips

Use photographs or diagrams to indicate the various types of holes, wall opening, and covers your employees may encounter.

Where To Go For More Information

Regulatory text 29 CFR 1926.500-.503—Subpart M, Fall Protection.

Regulatory text 29 CFR 1926.21(b)(2)—Safety training and education, employer responsibility.

KELLER'S CONSTRUCTION TOOLBOX TALKS

Fall Protection—Floor/Wall Opening

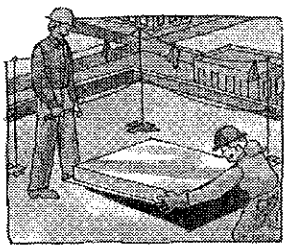
In the construction industry falls are the leading cause of worker fatalities. When working around floor and wall openings, you must be careful that you don't fall through. You can be injured or killed if you step into a hole or opening, or are hit by objects falling through.

Definitions

- ***Guardrail system*** means a barrier erected to prevent employees from falling to lower levels.
- ***Hole*** is a gap or void 2 inches or more in its least dimension, in a floor, roof, or other walking/working surface.
- ***Opening*** is a gap or void 30 inches or more high and 18 inches or more wide, in a wall or partition, through which employees can fall to a lower level.

What you need to know

If you are working on a surface or floor that has holes or openings and that surface is more than six feet above a lower level, you must be protected from:



- Falling through holes (including skylights) by personal fall arrest systems, covers, or guardrail systems erected around the holes;
- Tripping in or stepping into or through holes by covers; and
- Objects falling through holes by covers.

Covers and safety

How can you tell a cover from a sheet of plywood laying on the floor?

- Covers must be secured when installed to prevent accidental displacement by the wind, equipment, or employees. If the cover material is secured to the floor it may be there for a reason so don't remove it.
- All covers must be color-coded or marked with the word "HOLE" or "COVER" to provide warning of the hazard. This should be a good indication that the material is a cover.

What if you are going to work in a opening that has a cover secured over it?

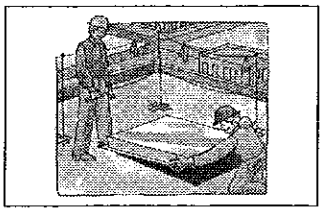
- Never remove a cover until you are ready to work in the hole or opening.
- Use personal fall arrest systems when working in the hole or opening.
- After you are finished working in the opening your employer must either replace and secure the cover or erect guardrails around the hole.

What if you are moving or disposing of material through a wall opening to a lower level?

If you are working on, at, above, or near wall openings (including those with chutes attached) you must use a guardrail system, a safety net system, or a personal fall arrest system, when:

- the outside bottom edge of the wall opening is six-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.

OSHA recognizes that accidents involving falls are generally complex events frequently involving a variety of factors. By following the requirements in this handout, you can avoid falling through floor and wall openings.



Fall Protection—Floor/Wall Opening Sign-Off Sheet

This sign-off sheet documents the employees at this company, _____, who have taken part in a training session on Fall Protection—Floor/Wall Opening. The session covered:

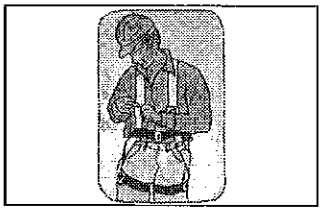
- The hazards of working on a surface that has holes or opening that require protecting.
- How to identify a protective cover.
- What to do when removing protective covers and working in the opening.
- What the requirement are for moving material through a wall opening to a lower level.

The space below is for employees to "sign-off" that they were in attendance.

Date of Training: _____ **Job Location:** _____

Employee Signature	Print Name Here

_____
Supervisor's Signature



Fall Protection—General Requirements

Overview of Topic

First things first is a good way to look at this toolbox talk. To prevent falls you have a duty to anticipate the need to work at heights and plan your employees work activities accordingly. Careful planning and preparation lay the groundwork for an accident-free worksite. Before your employees go to work "at heights" you need to look at a few issues. You need to:

- Understand the duty to provide fall protection.
- Assess the worksite for fall hazards.
- Select the correct protection system.

Employees are a valuable source for locating hazards. Involve them in the process; teach them how to do worksite assessments, recognize fall hazards, and select the proper fall equipment. Then ask them to help! Contributing employees are safer employees.

A duty to provide fall protection

When an employee is working six feet or more above lower levels, OSHA points out specific areas and operations where fall protection is required. Those areas/operations are: ramps, runways, walkways, excavations, hoist areas, holes, form and reinforcing steel work, leading edge work, unprotected sides and edges, overhand bricklaying and related work, roofing work, precast concrete erection, wall openings, and residential construction.

The OSHA rules at 1926.501(b)(1)-(14) point out the protection options you have to satisfy the requirements.

If the situation is not "listed" in the OSHA rules then 1926.501(b)(15) (walking/working surfaces not otherwise addressed), is appropriate. This reference says that if none of the other situations fit, you must still protect employees working six feet or more above lower levels by using a guardrail, safety net, or personal fall arrest system.

Worksite assessment

You are required to survey the worksite to determine if the walking/working surfaces on which employees are going to work have the strength and structural integrity to safely support them.

Once you have determined that the surface is safe, you must then select one of the fall protection options for the particular work operation when the walking/working surface is six feet or more above a lower level.

You must make a reasonable effort to anticipate the particular hazards to which your employees may be exposed to during their work. Specifically, you must: (1) inspect the area to determine what hazards exist or may arise, (2) identify hazards correctly and select the appropriate measures and equipment, (3) give specific and appropriate instructions to prevent exposure to unsafe conditions, (4) ensure employees follow the procedures given and understand the training provided.

Select correct protection system

All fall protection systems must conform to the criteria in 1926.502 (Fall protection systems criteria and practices). The systems and equipment must be provided and installed, and all pertinent requirements of the rules met before your employees begin any work on or from the surface on which they will be protected.

Most situations provide several choices for providing fall protection, but some limit the choices. For example, only guardrail systems are permitted to be used to protect employees on ramps and runways and other walkways.

Employee Training

The OSHA rules at 1926.503 require you to provide a program for each employee exposed to fall hazards. You must train them to recognize the hazards of falling and the procedures they should follow to minimize the hazards.

Training Tips

Everything that precedes the actual donning of the harness and going to work is fair game for this toolbox time. How to do a worksite assessment, recognizing fall hazards, and selecting fall protection systems are all worthwhile topics to touch on.

Where To Go For More Information

Regulatory text: 29 CFR 1926.500(a)(2)—Scope and application, .501—Duty to have fall protection, and 1926.501(b)(1)–(14).

KELLER'S CONSTRUCTION TOOLBOX TALKS

Fall Protection—General Requirements

Construction workers continue to fall to their deaths in record numbers. In 1996, 292 construction workers lost their lives because of a fall. Your company has a duty to anticipate your need for fall protection. Careful planning and preparation lay the groundwork for an accident-free worksite. However, your employer is not perfect; you need to be involved in the process.

Before you go to work at heights six feet or higher, your employer needs to look at a few issues. They need to: (1) understand the duty to provide fall protection, (2) assess the worksite for fall hazards, and (3) select the correct protection system.

You are a valuable source for locating hazards. Your company should involve you in the process, and teach you how to do worksite assessments, recognize fall hazards, and select the proper fall equipment.

A duty to provide fall protection

When you are working six feet or more above lower levels, OSHA points out specific areas and operations where fall protection is required. They are: ramps, runways, walkways, excavations, hoist areas, holes, form and reinforcing steel work, leading edge work, unprotected sides and edges, overhand bricklaying and related work, roofing work, precast concrete erection, wall openings, and residential construction.

The OSHA rules point out the protection options you have to satisfy the requirement. If the situation is not "listed" in the OSHA rules then 1926.501(b)(15) (walking/working surfaces not otherwise addressed), is appropriate. This reference says that if none of the other situations fit, you must still be protected when working six feet or more above lower levels by a guardrail, safety net, or personal fall arrest equipment.

Worksite assessment

Before going to work, a worksite survey must be done to determine if the walking/working surface on which you are going to work has the strength and structural integrity to safely support you, your fellow workers, and all equipment. Once it is determined that the surface is safe, one of the fall protection options for the particular work operation must be selected if the walking/working surface is six feet or more above a lower level.

As you can see, going to work at heights above six feet is more than just going to work. Much effort is involved in ensuring your safety. Your supervisor, safety guru, or other workers can't do it alone; you must be involved in the process. Don't go to work in unsafe conditions; bring them to the attention of your supervisor.

Fall Protection—General Requirements, Sign-Off Sheet

This sign-off sheet documents the names of employees who attended this training session on Fall Protection—General Requirements at _____.
(company name)

The session covered:

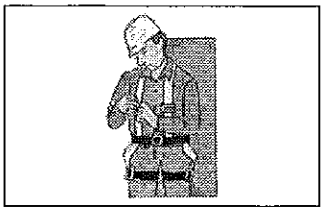
- The company's duty to provide fall protection.
- Worksite assessments.
- Selection of the proper fall protection system.

The space below is for employees to "sign-off" that they were in attendance.

Date of Training: _____ **Job Location:** _____

Employee Signature	**Print Name Here**

_____
Supervisor's Signature



Fall Protection—Inspecting Your Harnesses & Lanyards

Overview Of Topic

A personal fall arrest system is a system workers use to arrest a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

Your employees need to know three things related to using fall protection equipment:

(1) Fall protection equipment is something they can't take for granted.

(2) They have to have it on for it to work.

(3) They must inspect it every time before they're going to use it.

Inspecting your fall protection equipment is serious business

You trust you life to your fall protection equipment. It makes a lot of sense to take time and inspect the equipment. But you don't have much choice: OSHA requires that fall protection equipment be inspected before each use for wear, damage, and other deterioration (29 CFR 1926.502(d)(21)). If the equipment is defective, you must remove it from service.

What should you look for?

The following are some of the common causes of wear, damage, and deterioration of fall protection equipment. As with all equipment, read and follow the manufacturer's inspection guidelines.

Excessive dirt Construction work can be very dirty and there fore the fall protection gear can be dirty. All sorts of contaminates can come into contact with the harness or lanyard webbing. The webbing is made of fibers and when these fibers get dirty they can weaken as the dirt abrades the fibers. Certain chemicals can also eat into the fibers, destroying them so they fail. Try to keep you fall protection gear as clean as possible.

Fading Ultraviolet (UV) rays can damage harness fibers. Since every harness is exposed to different amounts of the UV rays, it's hard to tell which harnesses could fail. Harnesses should be inspected for stiff, brittle areas and for webbing that is faded.

Cuts, tears, and holes Inspect the webbing for tears, cuts, or holes. The webbing can be damaged or worn from constant contact with tools, equipment, or materials. Look at the edges of the webbing, but don't forget areas around snaphooks, buckles, or connectors.

Burns or areas that look eaten away Fall protection equipment used in hazardous environments (mixing chemicals, pouring molten metal, welding, and other hot work) needs special attention. Webbing can be severely damaged in a very short period of time in an environment like that.

Employees may need to inspect their gear several times during the course of a shift if working in a hazardous location or with dangerous materials.

If they are not sure the equipment is safe, take it out-of-service and have the manufacturer inspect and recertify it.

Employee Training

In addition to the general construction training rule at 29 CFR 1926.21(b)(2). OSHA has specified training requirements for employees exposed to fall situations. Accordingly, §1926.503 identifies required training components, but does not specify training program details.

OSHA state-plan-states: Remember that certain states have more stringent regulations that go above and beyond the OSHA standards.

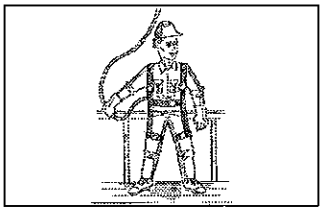
Training Tips

Demonstrate how to inspect a typical fall protection harness or lanyard. If you have a damaged or defective harness or lanyard bring it in and pass it around to the trainees. Discuss who employees should contact if they think a harness is damaged or defective. Cover any company specific rules you have regarding inspection of this type of fall protection gear.

Where To Go For More Information

29 CFR 1926.21(b)(2)—Employer responsibility.

29 CFR 1926.503—Training requirements.



Fall Protection—Residential Construction

Overview of Topic

Residential construction presents some unique circumstances for fall protection. This is demonstrated by the fact that OSHA has issued an interim guideline (OSHA's Directive 3-0.1A—*Plain Language Revision of OSHA Instruction STD 3.1, Interim Fall Protection Compliance Guidelines for Residential Construction*) until they can formally revise the fall protection rule.

Current rule

Section 1926.501(b)(13) of the construction regulations says that each employee engaged in residential construction activities six feet or more above lower levels must be protected by guardrails, safety nets, or personal fall arrest equipment unless another provision in the rules provides for an alternative method.

The rule goes on to say that if you can demonstrate that it is infeasible or creates a greater hazard to use any of the required systems, you can develop and implement a fall protection plan. This is saying you can find your own method if it is impossible to or unsafe to implement one of OSHA's.

Appendix E to the fall protection rule (Sample Fall Protection Plan) gives examples of fall protection when working with floor joists and sheathing, erecting exterior walls, setting and bracing roof trusses and rafters, and installing roof sheathing. All of these methods can be used to satisfy the requirements of 1926.501(b)(13) without having a fall protection plan.

Interim policy

The interim policy is quite lengthy, and if your company is involved in residential construction or residential type construction, you should get a copy and study it. The rest of the toolbox talk is an overview of that standard. This overview does NOT contain all of the requirements.

Listed activities and alternative procedures

There are four groups of residential construction activities for which alternative fall protection plans are available. Each group has its own set of alternative procedures and is discussed at length in the OSHA compliance directive. The groups are:

Group 1—Installation of floor joists, floor sheathing, and roof sheathing; erecting exterior walls; setting and bracing roof trusses and rafters.

Group 2—Working on concrete and block foundation walls and related formwork.

Group 3—This group consists of the following activities when performed in attics and on roofs: installing drywall, insulation, HVAC systems, electrical systems (including alarms, telephone lines, and cable TV), plumbing and carpentry.

Group 4—Roofing work (removal, repair, or installation of weatherproofing roofing materials such as shingles, tile and tar paper).

Frequently asked questions

Do any of these plans have to be written and site specific? No.

Does the employer have to determine that conventional fall protection is infeasible before being permitted to use an alternative procedure? No.

Citations

Failure to provide fall protection in accordance with any part of OSHA's interim standard will be cited as a violation of 1926.501(b)(13).

Employee Training

29 CFR 1926.503 are the training requirements for fall protection. Any application of OSHA's *Interim Fall Protection Compliance Guidelines* (Directive 3-0.1A) would come under the umbrella of the training requirements in 1926.503.

Training Tips

If you are a residential constructor and you use methods found in OSHA's interim fall protection standard, you must ensure your employees fully understand the correct procedures for erecting, maintaining, disassembling, and inspecting the systems they are going to use.

Where To Go For More Information

Construction regulatory text: 29 CFR 1926.300 – .307

OSHA's Directive *3-0.1A—Plain Language Revision of OSHA Instruction STD 3.1, Interim Fall Protection Compliance Guidelines for Residential Construction*

KELLER'S CONSTRUCTION TOOLBOX TALKS

Fall Protection—Inspecting Your Harnesses & Lanyards

A personal fall arrest system is a system workers use to arrest a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

There are lots of things you need to know when using fall protection equipment. One important requirement is that you have to inspect it every time you're going to use it.

Inspecting your fall protection equipment is serious business

You trust you life to your fall protection equipment. It makes a lot of sense to take time and inspect the equipment. But you don't have much choice: OSHA requires that fall protection equipment be inspected before each use for wear, damage, and other deterioration (29 CFR 1926.502(d)(21)). If the equipment is defective, you must remove it from service.

What should you look for?

The following are some of the common causes of wear, damage, and deterioration of fall protection equipment. (Always read and follow the manufacturer's inspection guidelines for detailed inspection requirements.)

Excessive dirt

Construction work can be very dirty and your fall protection gear can get filthy fast. All sorts of contaminates can come into contact with the harness or lanyard webbing. The webbing is made of fibers and when these fibers get dirty they can weaken as the dirt abrades the fibers. Try to keep you fall protection gear as clean as possible.

Fading

The sun's rays can damage harness fibers. Since every harness is exposed to different amounts of the UV rays it's hard to tell which ones could fail. If your harnesses is stiff and/ or faded, you may want to have a competent person or the manufacturer inspect it to see if it's still providing the needed protection and is safe to use.

Cuts, tears, and holes

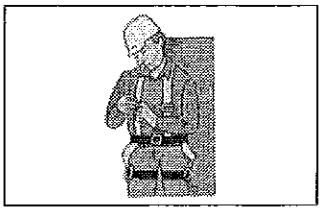
Inspect the webbing for tears, cuts, or holes. The webbing can be damaged or worn from constant contact with tools, equipment, or materials. Look at the edges of the webbing, but don't forget areas around snaphooks, buckles, or connectors.

Burns or areas that look eaten away

Fall protection equipment used in hazardous environments (chemical mixing, molten metal pouring, welding and other hot work) needs special attention. Certain chemicals can eat into the fibers, destroying them and causing the webbing to fail. Webbing can be severely damaged in a very short period of time in an environment like this.

How often should you inspect the gear?

You may need to inspect your gear several times during the course of a shift if working in a hazardous location or with dangerous materials. The consequences of having your fall protection fail should be the driving force behind your equipment inspection process.



Fall Protection—Inspecting Your Harnesses & Lanyards—Sign-Off Sheet

This sign-off sheet documents the employees at this company, _____, who have taken part in a training session on Fall Protection—Inspecting Your Harnesses & Lanyards. The session covered:

- The importance of inspecting your harnesses and lanyards.
- What to look for when performing the inspection.
- How often you need to inspect your gear.
- What to do if you're not sure the gear is safe to use.

The space below is for employees to "sign-off" that they were in attendance.

Date of Training: _____ **Job Location:** _____

Employee Signature	**Print Name Here**

_____
Supervisor's Signature

KELLER'S CONSTRUCTION TOOLBOX TALKS

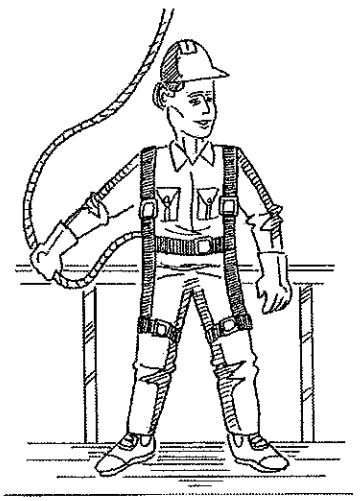
Fall Protection—Residential Construction

If you are working in the residential construction industry you know that it presents some unique issues for fall protection. In fact they are so different that OSHA published some new guidelines for residential construction. These guidelines give your employer a wider range of choices of methods to protect you from falling.

Current rule

Section 1926.501(b)(13) of the construction regulations says that each employee doing residential construction activities six feet or more above lower levels must be protected by guardrails, safety nets, or personal fall arrest equipment. The rule goes on to say that if these conventional methods can't be used, your employer can develop and implement a fall protection plan.

This is saying your company can find another method to protect you from falling if it is impossible or unsafe to implement one of OSHA's primary methods.



Interim policy

The interim policy is quite lengthy, and if your company is involved in residential construction or residential type construction, they should get a copy and study it. You must also be familiar with the requirements when you use any of the methods for fall protection.

The following information is an overview of that directive. This overview does NOT contain all of the requirements.

Listed activities and alternative procedures

There are four groups of residential construction activities for which alternative fall protection plans are available. Each group has its own set of alternative procedures and is discussed in length in the OSHA compliance directive. The groups are:

Group 1—Installation of floor joists, floor sheathing, and roof sheathing; erecting exterior walls; setting and bracing roof trusses and rafters.

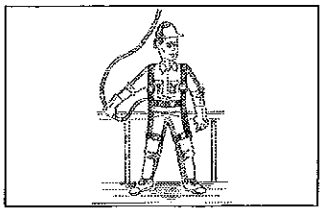
Group 2—Working on concrete and block foundation walls and related formwork.

Group 3—This group consists of the following activities when performed in attics and on roofs: installing drywall, insulation, HVAC systems, electrical systems (including alarms, telephone lines, and cable TV), plumbing and carpentry.

Group 4—Roofing work (removal, repair, or installation of weatherproofing roofing materials such as shingles, tile and tar paper).

Recognizing the difficulties in providing fall protection for residential constructors prompted OSHA to write the interim rules and methods for fall protection found in OSHA's *Interim Fall Protection Compliance Guidelines.* Failure of your employer to provide fall protection in accordance with any part of OSHA's interim standard will be cited as a violation of the OSHA regulations.

KELLER'S CONSTRUCTION TOOLBOX TALKS



Fall Protection—Residential Construction Sign-Off Sheet

This sign-off sheet documents the names of employees who attended this training session on Fall Protection—Residential Construction at _____.
(company name)

The session covered:

- Residential construction requirements of the current rule.
- Interim fall protection requirements for residential construction, OSHA's Directive *3-0.1A—Plain Language Revision of OSHA Instruction STD 3.1, Interim Fall Protection Compliance Guidelines for Residential Construction.*
- Interim policy for roofing work.

The space below is for employees to "sign-off" that they were in attendance.

Date of Training: _____ **Job Location:** _____

Employee Signature	**Print Name Here**

_____
Supervisor's Signature

Fall Protection
OSHA's Top 5 Fall Protection Violations

Overview of Topic

Each year, falls account for the greatest number of fatalities in the construction industry, and are always a major concern in other industries.

This Toolbox Talk gives you the opportunity to share with your employees those top five fall protection violations that OSHA inspectors constantly find not being followed—or followed incorrectly—at construction jobsites.

Editor's Note: These OSHA citations cover general fall protection. They do not cover falls from scaffolds, aerial lifts, steel erection, etc. Those subject areas have their own fall protection rules.

#1 **Unprotected sides and edges**—Each employee on a walking/working surface with an unprotected side or edge 6 feet or more above a lower level must be protected from falling by the use of guardrail, safety net, or personal fall arrest systems. (§1926.501(b)(1))

This is currently the 2nd most cited construction regulation.

#2 **Training requirements**—You must provide a training program for each employee who may be exposed to fall hazards. Your program must: (1) enable employees to recognize the hazards of falling [specific to their jobsite], and (2) train employees in the procedures to be followed to minimize those hazards. (§1926.503(a)(1))

This is currently the 11th most cited construction regulation.

#3 **Residential construction**—Except as otherwise provided in .501(b), employees doing residential construction activities 6 feet or more above lower levels must be protected by a guardrail, safety net, or personal fall arrest system. (§1926.501(b)(13)

If you can demonstrate that it is infeasible or creates a greater hazard to use one of the above systems, you can develop and implement a fall protection plan meeting the requirements of paragraph .502(k) of the fall protection regulations.

This is currently the 13th most cited construction regulation.

#4

Holes—Each employee on a walking/working surface must be protected from falling through holes (including skylights) more than 6 feet above lower levels by personal fall arrest equipment, covers, or a guardrail erected around the holes. (§1926.501(b)(4))

Employees must be protected from tripping in or stepping into or through holes (including skylights) by covers.

Employees below holes must be protected from objects falling through holes (including skylights) by covers.

This is currently the 19th most cited construction regulation.

#5

Roofing work on low-slope roofs—Except as otherwise provided in .501(b), employees on low-slope roofs, with unprotected sides and edges 6 feet or more above lower levels, must be protected from falling by a guardrail, safety net, or personal fall arrest system. (§1926.501(b)(10))

You can also use a combination of a warning line and: (1) guardrail, (2) safety net, (3) personal fall arrest, or (4) safety monitoring system.

Or, on roofs 50-feet wide or less, you can use a safety monitoring system alone.

This is currently the 22nd most cited construction regulation.

Studies have shown that the use of guardrails, fall arrest systems, safety nets, covers, and travel restriction systems can prevent many deaths and injuries from falls.

Employee Training

The fall protection regulations at 29 CFR 1926.503 lay out specific requirements for employee fall protection training. The regulations identify required training components but do not specify training program details.

Training Tips

Ensure your employees know and can recognize the fall hazards at their jobsite and the equipment they will use and the procedures they must follow to eliminate or minimize those hazards.

Where To Go For More Information

Construction regulatory text: §1926, Subpart M—Fall protection.

OSHA Standard 3-0.1A—*Plain Language Revision of OSHA Instruction STD 3.1, Interim Fall Protection Compliance Guide lines for Residential Construction.*

KELLER'S CONSTRUCTION TOOLBOX TALKS

Fall Protection—OSHA's Top 5 Fall Protection Violations

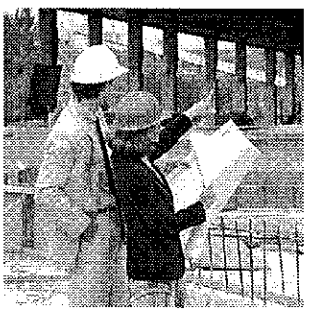
Each year, falls account for the greatest number of fatalities in the construction industry, and are always a major concern in other industries. This Toolbox Talk discusses the top five fall protection violations that OSHA inspectors constantly find not being followed—or followed incorrectly—at construction jobsites.

These OSHA citations cover general fall protection. They do not cover falls from scaffolds, aerial lifts, steel erection, etc. Those subjects have their own fall protection rules.

#1 Unprotected sides and edges—Each employee on a walking/working surface with an unprotected side or edge 6 feet or more above a lower level must be protected from falling by the use of guardrail, safety net, or personal fall arrest systems.

#2 Training requirements—Your employer must provide a training program if you might be exposed to fall hazards. The program must: (1) enable you to recognize the fall hazards specific to your jobsite, and (2) train you in the procedures to follow to minimize those hazards.

#3 Residential construction—Except as otherwise provided in the OSHA rules, when you are engaged in residential construction activities 6 feet or more above lower levels, you must be protected by a guardrail, safety net, or personal fall arrest system.



If your employer can demonstrate that it is infeasible or creates a greater hazard to use one of the above systems, they can develop and implement a fall protection plan meeting the requirements of paragraph .502(k) of the fall protection regulations.

You can also use a combination of a warning line and: (1) guardrail, (2) safety net, (3) personal fall arrest, or (4) safety monitoring system. Or, on roofs 50-feet wide or less, you can use a safety monitoring system alone.

#4 Holes—If you are on a walking/working surface more than 6 feet above a lower level with holes (including skylights), you must be protected from falling through those holes by personal fall arrest equipment, a covers, or a guardrail erected around the hole.

If you are below a hole, you must be protected from objects falling through the hole (including skylights) by a cover.

#5 Roofing work on low-slope roofs—Except as otherwise provided in the OSHA regulations, if you are working on a low-slope roof, with unprotected sides and edges 6 feet or more above a lower level, you must be protected from falling by a guardrail, safety net, or personal fall arrest system.

Events surrounding falls often involve a number of factors, including unstable working surfaces, misuse of fall protection equipment, and human error. Studies have shown that the use of guardrails, fall arrest systems, safety nets, covers, and travel restriction systems can prevent many deaths and injuries from falls.

Fall Protection
OSHA's Top 5 Fall Protection Violations—Sign-Off Sheet

This sign-off sheet documents the names of employees who attended this training session on OSHA's Top 5 Fall Protection Violations at _____.
(company name)

The session covered:

- Unprotected sides and edges.
- Training requirements.
- Roofing work on low-slope roofs.
- Holes.
- Residential construction.

The space below is for employees to "sign-off" that they were in attendance.

Date of Training: _____ **Job Location:** _____

Employee Signature	**Print Name Here**

_____
Supervisor's Signature