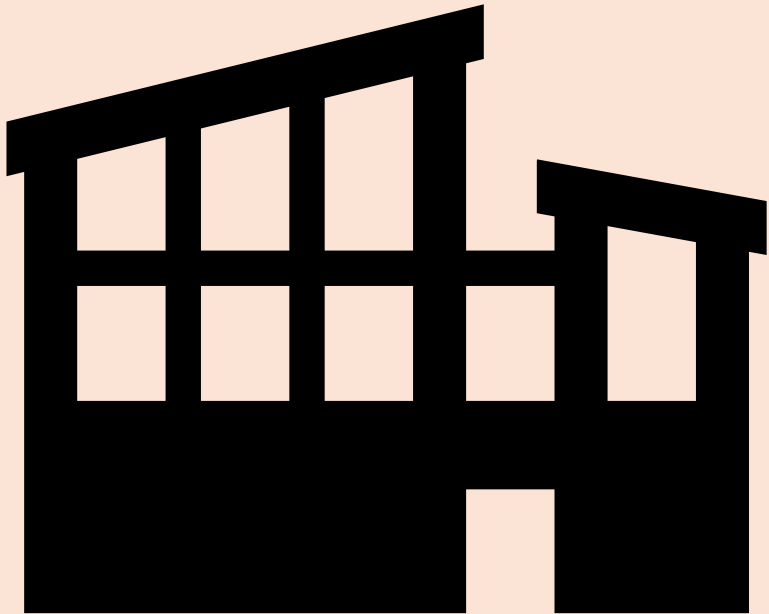


# Top Three Things to Know About Working on Roofs

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May 5, 2026

[www.StopConstructionFalls.com](http://www.StopConstructionFalls.com)



# Housekeeping



Today's webinar is being hosted by CPWR



It will be recorded and automatically shared via follow-up email.



The recording and slides will also be posted on [cpwr.com/webinars](https://cpwr.com/webinars).



Attendees are automatically muted! Please submit questions via chat or Q&A.




Spanish audio is available via simultaneous interpretation




# Interpretación simultánea

## WINDOWS - MAC (Navegador web/*Browser*)

1. En los controles del seminario web, haga clic en **Interpretación** 
2. Haga clic en el idioma que desee escuchar.
3. (Opcional) Para escuchar solo el idioma interpretado, haga clic en **Silenciar audio original**.

**Nota:** Hay que unirse al audio del seminario web a través de audio o VoIP de la computadora. No podrá escuchar la interpretación de idiomas si utiliza las funciones de audio de teléfono [llamada directa](#) o [recibir llamada](#).

## ANDROID - iOS (Aplicación móvil/*Mobile App*)

1. En los controles del seminario web, toque los puntos suspensivos 
2. Toque **Interpretación de idiomas**.
3. Toque el idioma que desee escuchar.
4. (Opcional) Toque el botón de alternancia **Silenciar audio original**.
5. Haga clic en **Finalizado**.

**Nota:** No podrá escuchar la interpretación de idiomas si utiliza las funciones de audio de teléfono [llamada directa](#) o [recibir llamada](#).

# Today's Panelists

## **Brian Rizzo**

*Acting Director, Directorate of Construction*  
Occupational Safety and Health  
Administration (OSHA)

## **Chris Trahan Cain, CIH**

*Executive Director*  
CPWR–The Center for Construction  
Research and Training (CPWR)

## **Donald Peterson, PhD**

*Director, Division of Safety Research*  
National Institute for Occupational Safety & Health (NIOSH)

## **Joel Gonzalez**

*Trust Fund Field Director*  
Roofers & Waterproofers Research and  
Education Joint Trust Fund

## **Matt Wittenborn**

*Instructor*  
Roofers & Waterproofers Research and  
Education Joint Trust Fund

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Learn how we're improving customer service and expanding compliance assistance

[Remembering Lost Workers](#)

[i. Schmitt, 57](#)

[Steven Matthew Jason II, 41](#)

[Benjamin Lionel Bonura, 26](#)

[Derek Marcus Burpo, 51](#)

[Daniel J.](#)



**Useful Links**

[Learn How to File a Complaint](#)

[Report a Fatality or Severe Injury](#)

[Explore Voluntary Protection Programs](#)

[Schedule a No-Cost Consultation](#)



Join the  
**National Safety  
Stand-Down**  
To Prevent Falls in Construction

[Home](#)[Resources](#)[Events](#)[Share With Us](#)[Highlights](#)[Back to Construction Industry](#)[Certificate of Participation](#)

Fatalities caused by falls from elevation continue to be a leading cause of death for construction employees, accounting for 389 of the 1,034 construction fatalities recorded in 2024 (BLS data). **Those deaths were preventable.** The National Safety Stand-Down raises fall hazard awareness across the country in an effort to stop fall fatalities and injuries.

## What is a Safety Stand-Down?

A Safety Stand-Down is a voluntary event for employers to talk directly to employees about safety. Any workplace can hold a stand-down by taking a break to focus on "Fall Hazards" and reinforcing the importance of "Fall Prevention". Employers of companies not exposed to fall hazards, can also use this opportunity to have a conversation with employees about the other job hazards they face, protective methods, and the company's safety policies and goals. It can also be an opportunity for employees to talk to management about fall and other job hazards they see.

## Announcements

- The 13th annual National Safety Stand-Down to Prevent Falls in Construction will be held **May 4th-8th, 2026**
- [National Emphasis Program - Falls \(PDF\)](#) - OSHA Instruction - CPL 03-00-025 (May 1, 2023)
- [10 year anniversary, National Safety Stand-Down to Prevent Falls in Construction](#) [\(Video\)](#)
- **Webinar:** [Preventing Falls through Improved Design](#) [\(March 29, 2023\)](#). Prevention through Design (PtD) and how it can be used to improve not only building design, but also work and equipment design.

# Web Resources

<https://www.osha.gov/construction>

<https://www.osha.gov/stop-falls>

<https://www.osha.gov/stop-falls-stand-down>

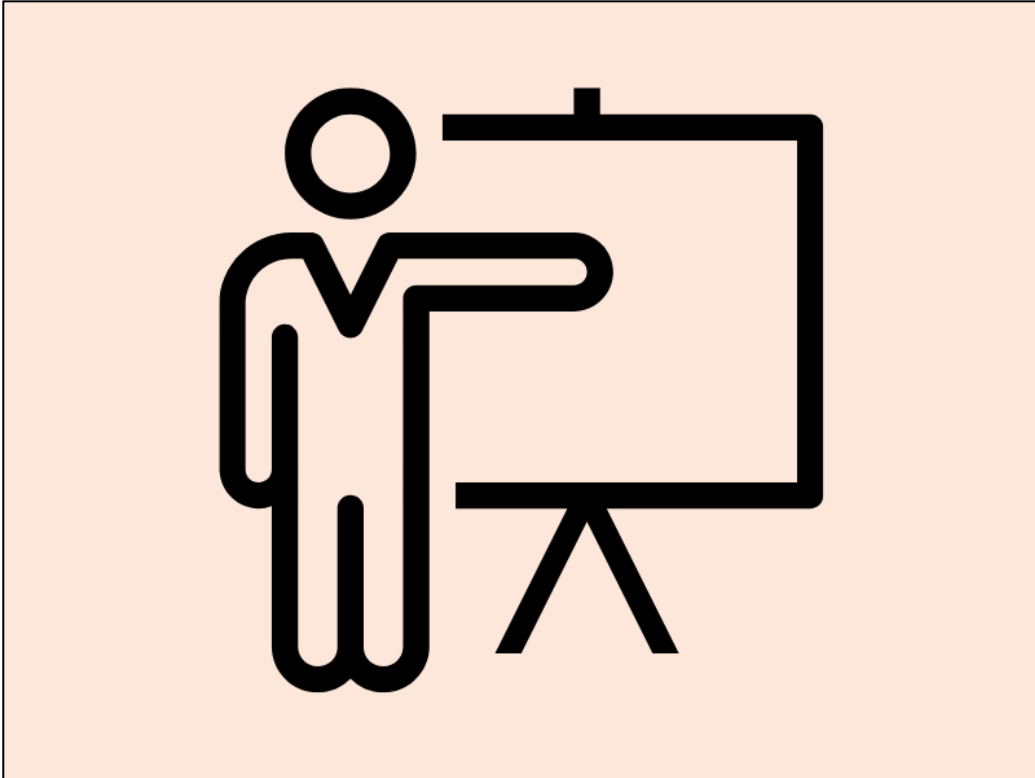
<https://www.cdc.gov/niosh/construction/falls-prevention-campaign/index.html>

<https://stopconstructionfalls.com/home/>

<https://www.cdc.gov/nora/>

<https://www.constructionsafetyweek.com/>

# Training Best Practices



- Virtual training can be a good starting point, but hands-on training is essential
- Workers must receive hands-on training that is equipment and tool-specific for the work they are performing
- Reinforcement training should be provided regularly
- Training must be performed in the languages used and understood by workers on each jobsite
- Training should be provided for workers of all literacy levels

[www.StopConstructionFalls.com](http://www.StopConstructionFalls.com)

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# Foundations of Safety Leadership and FSL4Res

- The **FSL** is a highly interactive 2.5-hour training program that teaches foremen, supervisors, and other front-line leaders on construction job sites about the costs of ineffective, and the benefits of effective, safety leadership
- The **FSL4Res** is adapted from the FSL, and is designed to meet the unique safety issues found in the residential construction sector, particularly **fall hazards**
  - Includes three new real-world scenarios that illustrate how foremen and other frontline leaders can use the leadership skills to prevent fall hazards



Foundations for Safety Leadership – [English](#), [Español](#)  
FSL4Res – [English](#), [Español](#)

[www.StopConstructionFalls.com](http://www.StopConstructionFalls.com)

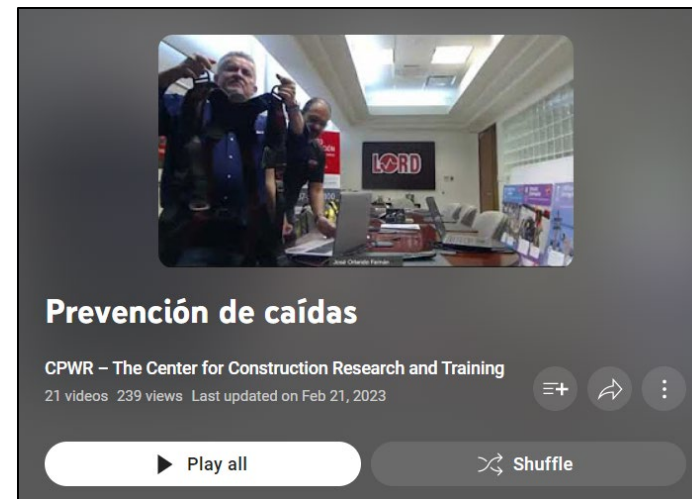
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# Additional Training Resources

- The [Falls Campaign website](#) offers many types of training resources in English and Spanish:
  - [Infographics and tipsheets](#)
  - [Worker handouts](#)
  - [Videos and webinars](#)
  - [Podcasts](#)
  - [Mobile apps](#)
  - [Toolbox Talks](#)



[www.StopConstructionFalls.com](http://www.StopConstructionFalls.com)

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*Three simple steps to preventing falls.*



# Top Three Things to Know About Working on Roofs



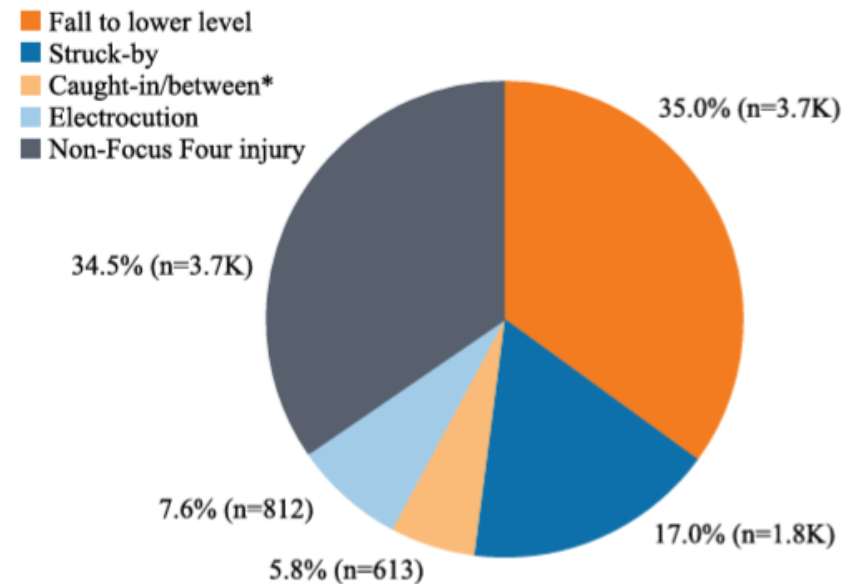
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Roofers & Waterproofers  
Research and Education  
Joint Trust Fund

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# Falls **Continue** as the leading cause of death in the Construction Industry.

## 1. Fatal injuries in construction, sum of 2011-2021

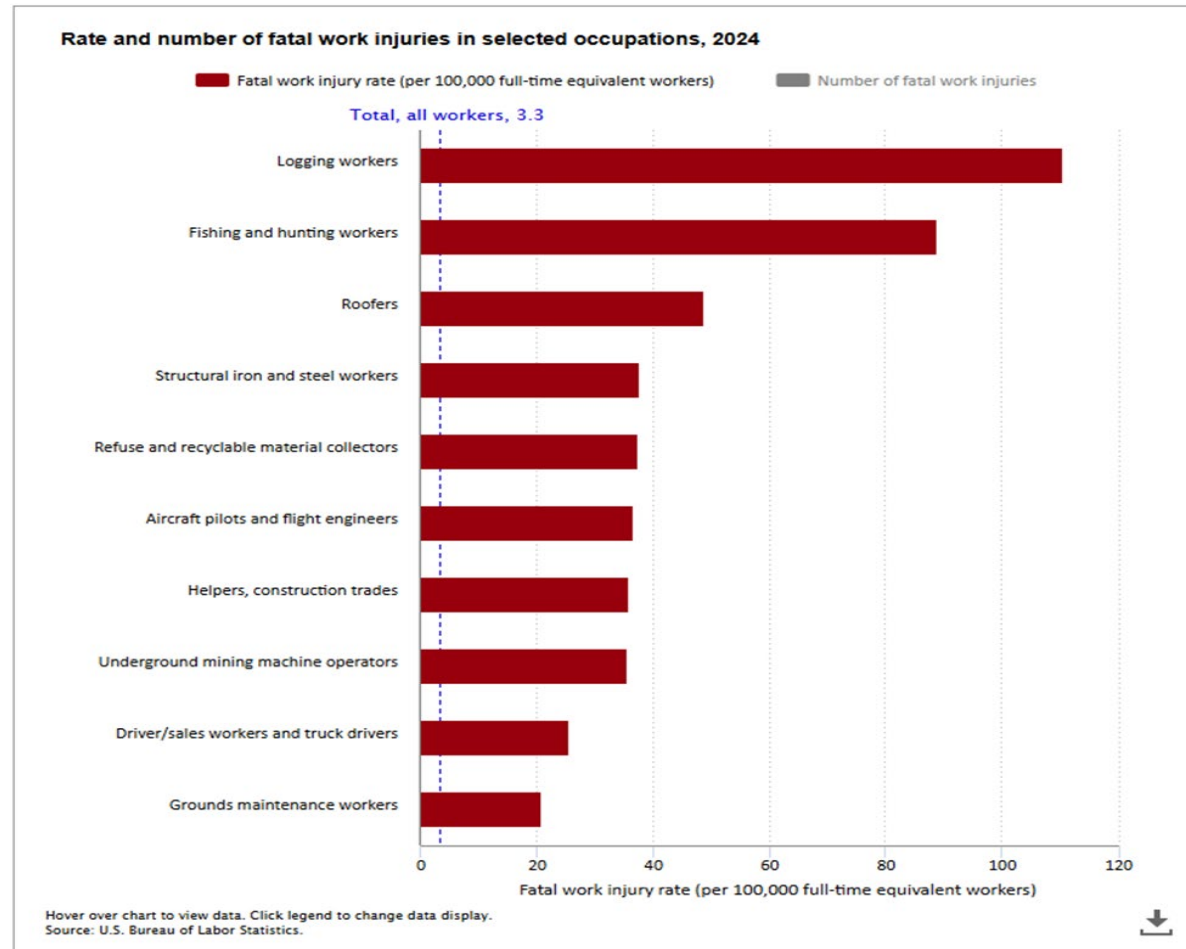


*Source: U.S. Bureau of Labor Statistics, 2011-2021 Census of Fatal Occupational Injuries.*

*\*Missing OIICS 64 (caught in/compressed by equipment/objects) in 2021 impacting caught-in/between and total values.*

# Falls **Continue** as the leading cause of death in the Construction Industry.

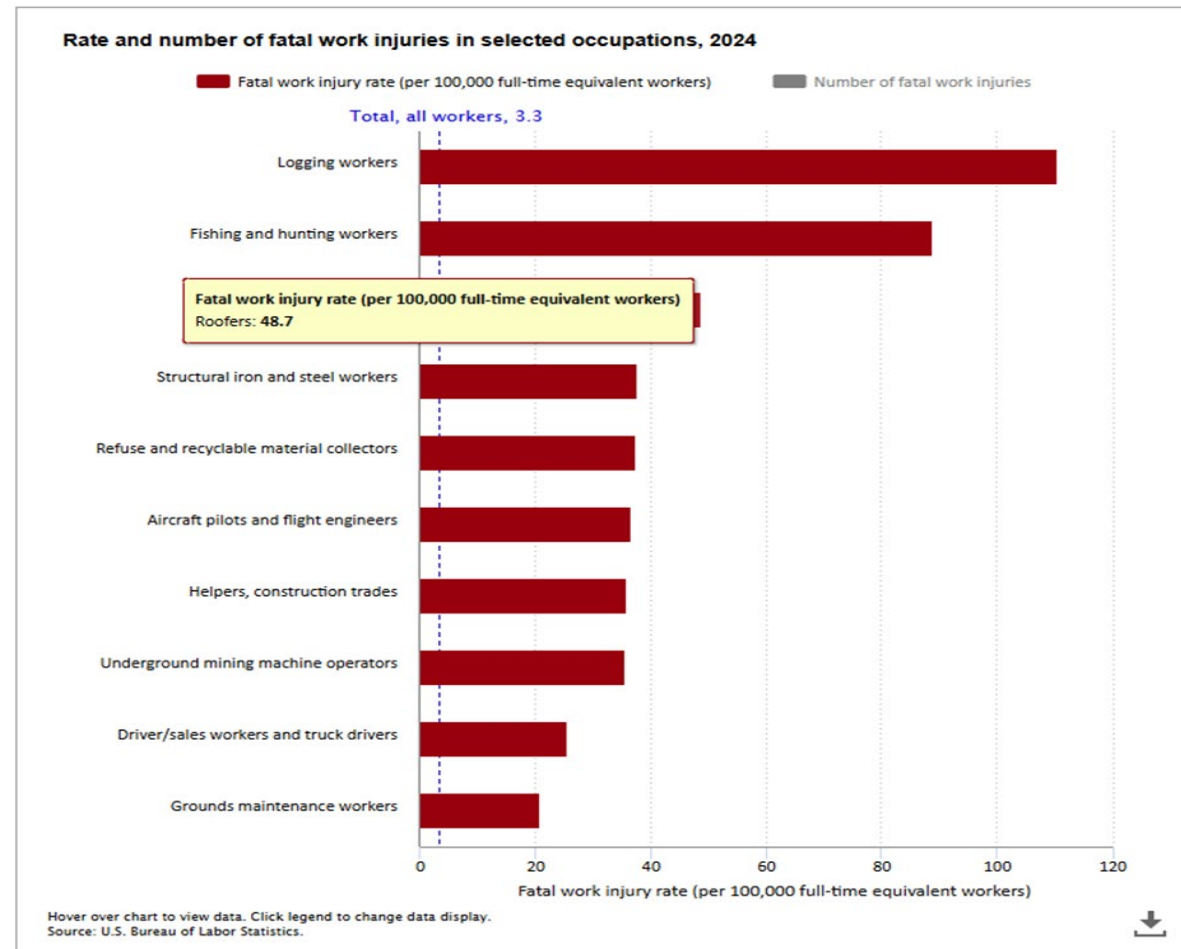
Roofers and Waterproofers rank **3<sup>rd</sup>** in the list of the most dangerous occupations in the United States.



# Falls **Continue** as the leading cause of death in the Construction Industry.

Roofers commonly work in high-risk locations during the removal and re-application of commercial roof systems.

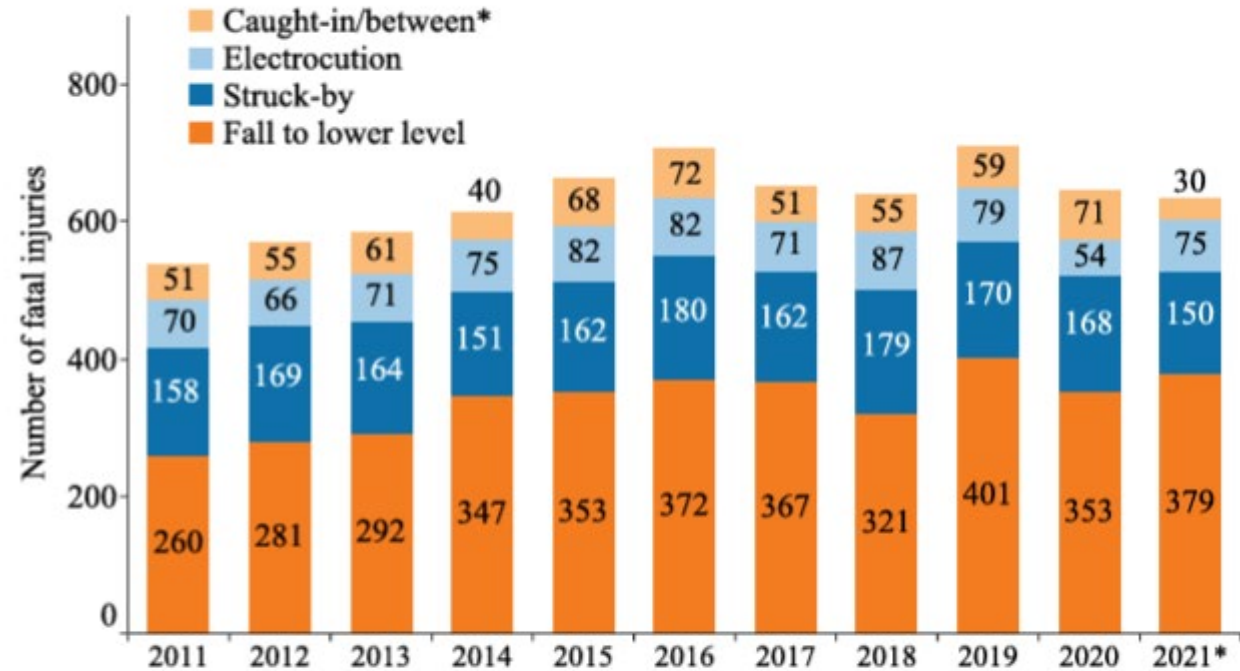
Identifying potential fall hazards and taking preventative measures to ensure crewmember safety in the workplace is of the utmost importance.



## But why?

What causes this to remain at the lead of fatal injuries year after year?

### 3. Number of fatal injuries by Focus Four injury type, 2011-2021



*Source: U.S. Bureau of Labor Statistics, 2011-2021 Census of Fatal Occupational Injuries.*

*\*Missing OIICS 64 (caught in/compressed by equipment/objects) in 2021 impacting caught-in/between and total values.*

# But why?

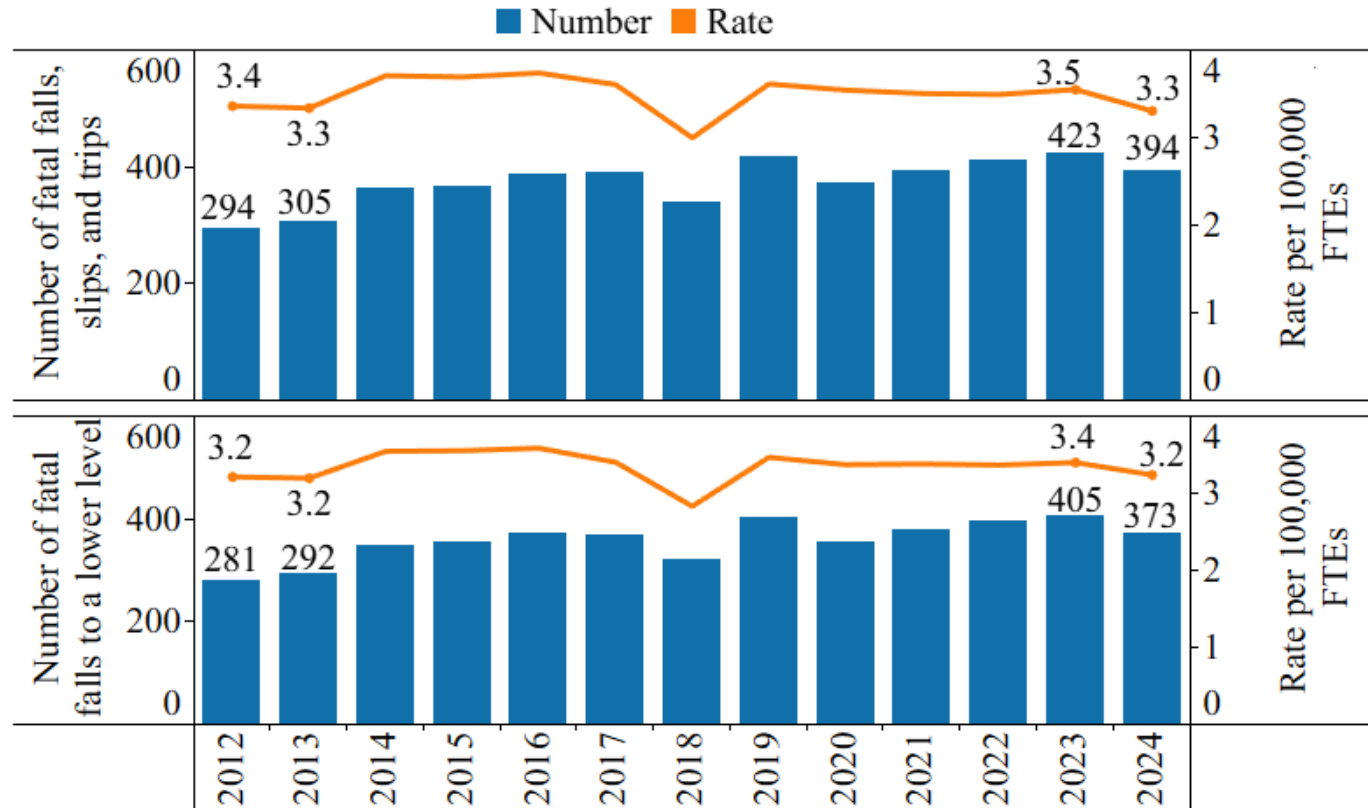
What factors lead to mistakes?



## But why?

How can we change these numbers?

### Number and rate of fatal falls, slips, and trips, and falls to a lower level, 2012-2024



**Source:** U.S. Bureau of Labor Statistics, 2011-2024 Census of Fatal Occupational Injuries and 2012-2024 IPUMS Current Population Survey. Calculations by CPWR Data Center.

## When is Fall Protection needed?

Unprotected sides and roof edges

Skylights

Holes or other roof/floor  
openings

Ladders

Equipment

Scaffolds

## What Fall Protection systems are available when working on the job?

Guardrails

Hole Covers & Securement

Fall Arrest Systems

Fall Restraint Systems

Safety Nets

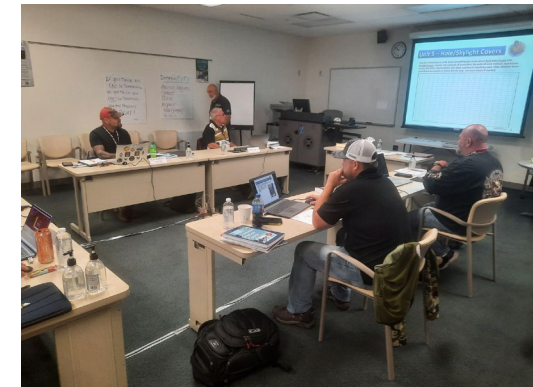
Warning Lines and Safety Monitors

Rescue

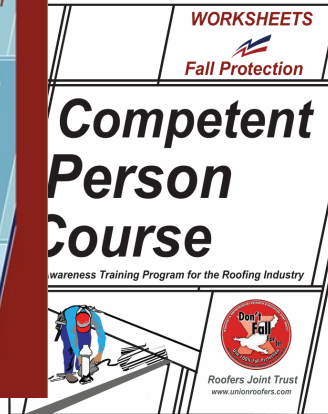
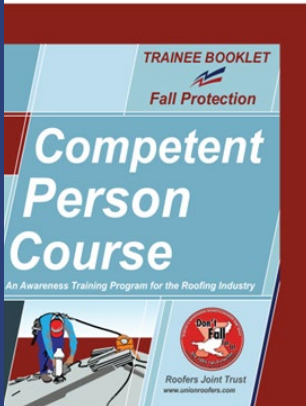
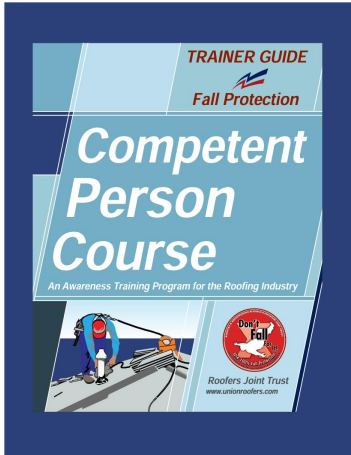


# The three most important skills we can teach about fall protection?

1. Identification of Fall Hazards
2. Selection of the appropriate Fall Protection System
3. Continual Development and Practice of learned skillsets



# Competent Person Fall Protection Training



## 'Flat Roof Triangle' Method

### Estimating free fall distance from flat roof

- Free fall is the fall before the PFAS engages
- To calculate
  - ✓ Height
  - ✓ Distance
  - ✓ Length
  - ✓ Height

## Unit 8 – Job-Specific 'Blueprints'

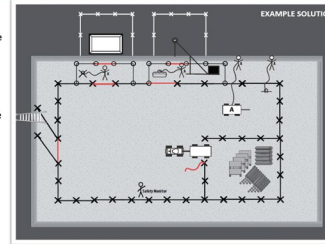
### Problem-Solving Exercises

The Fall Protection Problem-Solving Exercises use Google Earth Pro satellite photos of actual roofs in elevation and plan views of real-life job scenarios.

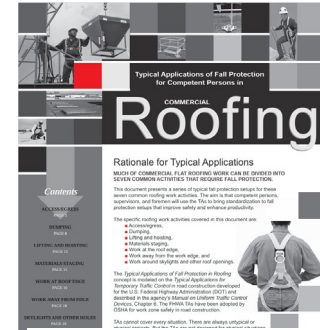
Use the symbols from the legend sheet on the last page of the exercises.

The exercises can be done individually or in teams.

Also see: 'Typical Applications of Fall Protection for Competent Persons in Commercial Roofing' from the Roofers Trust



TRAINEE BOOKLET PAGE 52



**SCENARIO 1: DETAIL/REPLACE SKYLIGHTS**

John and a repair crew are working on this 5-story building with a built-up roof. They will detail and replace 4' x 4' dome skylights sitting on 12" curbs. Access is through Mechanical Room 1. A boom truck will be used to load/unload materials. A small tanker will supply hot.

The plan view (top down view) below shows the locations of the skylights and the mechanical rooms. The parapet wall is 8" high. The Work Sheet shows a diagram of this view.

Discuss this job in your group. Choose the areas where materials and hot will be delivered to the roof. Identify the hazardous fall exposures for John and his crew. Determine if fall protection is needed. If so, figure out at least 2 ways the work can be done with 100% fall protection in place from start to finish.



## Unit 11 – PFAS Rescue in Roofing

### What Rescue Plan Does Your Company Need?

- Your contractor must have a PFAS rescue plan [OSHA Subpart M 1926.502(d)(20)]
- "... The employer shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves ..."

- ✓ Make a specific plan for each job
- ✓ Establish emergency procedures
- ✓ Establish chain of command
- ✓ Identify critical resources, rescue
- ✓ Have roofers use buddy system
- ✓ Make sure roofers wear properly positioned harnesses
- ✓ Make sure roofers stay hydrated
- ✓ Make sure water bottle handy to lower to fall

Consider rescue when sele

## What Is a Safety Culture?

The safety culture of an organization can be defined as "The way we do things around here..."

• The style and proficiency of an organization's health and safety programs are the product of group and individual:

- ✓ Values
- ✓ Attitudes
- ✓ Competencies
- ✓ Patterns of behaviors

• Organizations with positive safety cultures are characterized by

- ✓ Communications founded on mutual trust
- ✓ Shared perceptions of the importance of safety
- ✓ Confidence in effectiveness of preventive measures
- ✓ Effective training on a regular basis



TRAINEE BOOKLET PAGE 92

FALL DISTANCE	TIME (SEC)	ARRESTING FORCE ON IMPACT*
7.6 inches	0.20	512 lbs
17.0 inches	0.30	1,152 lbs
31.0 inches	0.40	2,048 lbs
4 feet	0.50	3,200 lbs
6 feet	0.62	4,800 lbs
8 feet	0.71	6,400 lbs
10 feet	0.79	8,000 lbs

\* Assumes fall stop distance = 3 inches.

[Competent Person Video Link](#)

# #1: Fall Hazard Identification



# Questions for the Crew

What fall hazards are on site?

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Name of Crewmembers to Identify Hazards:

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Competent Person assigned? Yes \_\_\_\_\_ No \_\_\_\_\_

Name of Assigned Competent Person:

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What Fall Protection equipment or components are available for use?



**Fall Protection Toolbox Talk**

**Falls are the leading cause of death in the Roofing Industry.**

Roofers and Waterproofer's rank 3<sup>rd</sup> in the list of the most dangerous occupations in the United States.

Roofers commonly work in high risk locations during the removal and re-application of commercial roof systems.

Identifying potential fall hazards and taking preventative measures to ensure crewmember safety in the workplace is of the utmost importance.

**When is Fall Protection needed?**

Any work performed at heights of 6ft or greater in construction require some form of fall protection.

A Competent Person can identify the proper components needed to ensure safety for the worker.

Fall protection training allows a roofer or waterproofer to make an informed judgment of the hazard and take the proper steps to correct them.

**What are the most common fall hazard areas of concern for a Roofer and Waterproofer?**

- Unprotected sides and roof edges
- Skylights
- Holes or other roof/floor openings
- Ladders
- Equipment
- Scaffolds

This information has been provided by the Roofers and Waterproofer's Research and Education Joint Trust Fund in partnership with OSHA and CPWR

# Questions for the Crew

Has the equipment been inspected before use? Yes \_\_\_\_ No \_\_\_\_

Name of Crewmembers performing inspection:

---

Is the Fall Protection equipment in use adequate for the associated hazard?

Yes \_\_\_\_ No \_\_\_\_

Is there a better way to protect the crew from falls? If so, How?

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# Questions for the Crew

Is Rescue equipment available? Yes \_\_\_\_\_ No \_\_\_\_\_

Has the equipment been inspected? Yes \_\_\_\_\_ No \_\_\_\_\_

Name of Crewmember performing inspection:

\_\_\_\_\_

Has a site-specific Rescue Plan been developed and practiced? Yes \_\_\_\_\_ No \_\_\_\_\_

Name of Rescue leader: \_\_\_\_\_

# #2: Selection of the appropriate Fall Protection system



# Fall Protection Checklist

Are fall hazards present? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, what form or combination of Fall Protection systems will be used?

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## Guardrails

Job Built or Manufactured? \_\_\_\_\_

Mobile or Permanent? \_\_\_\_\_

Do they meet OSHA standards? Yes \_\_\_\_ No \_\_\_\_

Key requirements to remember:

- Height:
  - Top rail must be approximately 42 inches above the walking/working surface, with a tolerance of  $\pm 3$  inches in an outward or downward direction. The top rail must withstand at least 200 pounds of force applied in any outward or downward direction.
- Mid-rail:
  - An intermediate rail must be installed approximately halfway between the top rail and the walking working surface and withstand 150 pounds of force.
- Toe-boards:
  - Required to prevent falling objects, extending at least 3.5 inches high from the walking working surface and must withstand 50 pounds of force.

## Skylights and Hole Covers

Are Skylights and Roof Holes guarded or covered? Yes \_\_\_\_ No \_\_\_\_

Do the covers or cages meet OSHA standards? Yes \_\_\_\_ No \_\_\_\_

Key requirements to remember:

- Covers:
  - Must withstand a minimum of 2 times the intended load.
  - They must be color coded or marked with “Hole” or “Caution” in a language that everyone on the roof can understand and “Fastened Securely” to prevent displacement.
  - **“Warning lines and safety monitors”** cannot be used to barricade a skylight, it must either be a guardrail encompassing all sides, a cage or cover secured in place with the appropriate fasteners.
  - Holes 2 inches or more in diameter must be covered.

## Fall Arrest Systems

Are all components of a Fall Arrest System on site? Yes \_\_\_\_\_ No \_\_\_\_\_

Have all the components been inspected? Yes \_\_\_\_\_ No \_\_\_\_\_

Key requirements to remember:

- **Fall arrest components**: Anchorage, body harness, and connectors (ABC)—must meet strict safety standards to limit maximum arresting forces to 1,800lbs and prevent free falls exceeding 6 feet.
  - **Anchorage (A)**: Must be independent of worker support, capable of supporting at least 5,000lbs per employee attached or designed by a qualified person with a safety factor of two.
  - **Body Harness (B)**: Full-body harnesses are mandatory to distribute fall forces across the thighs and buttocks, keeping the user upright. They must include dorsal (back) D-rings and, where necessary, front/side D-rings for specific tasks.
  - **Connectors (C)**: These include lanyards, deceleration devices, or lifelines.
    - **Requirements**: Must have automatic locking gates to prevent accidental disengagement.
    - **Compatibility**: Snap hooks must be compatible with the anchorage to prevent "bursting" or (gate failure).
    - **Deceleration**: Shock-absorbing lanyards or self-retracting lifelines (SRLs) must limit maximum deceleration distance to 3.5 feet.

## Fall Restraint Systems

Are all components of a Fall Restraint System on site? Yes \_\_\_\_ No \_\_\_\_

Have all the components been inspected? Yes \_\_\_\_ No \_\_\_\_

Key Requirements to remember:

- A fall restraint system (or travel restraint) is a proactive safety mechanism designed to prevent workers from reaching a fall hazard, such as an edge, roof opening, or dangerous elevation. It acts as a "leash" keeping workers in a safe zone by using a fixed-length or adjustable lanyard, anchor, and harness.
- **Purpose:** It physically restricts a worker's movement so they cannot get too close to an unprotected edge or fall hazard, preventing a fall from ever occurring.
- **Components:** A typical system includes a full-body harness, a fixed-length or adjustable lanyard (non-shock absorbing), and a secure anchorage point.
- **Functionality:** Unlike fall arrest which stops a worker during a fall, a restraint system ensures the worker remains on the working surface.
- **Training:** **Workers must be trained to adjust the lanyard length correctly to ensure they cannot reach the edge.**

## Safety Nets

Have Fall Protection Safety Nets been installed? Yes \_\_\_\_ No \_\_\_\_

Have all components been inspected? Yes \_\_\_\_ No \_\_\_\_

Key requirements to remember:

- **Installation Height:** Nets must be placed as close as practicable under the work surface, and never more than 30 feet below.
- **Horizontal Extension:** The net must extend outward from the edge of the work surface based on the vertical fall distance:
  - Up to 5 ft: 8 ft extension.
  - 5 ft to 10 ft: 10 ft extension.
  - More than 10 ft: 13 ft extension.
- **Clearance:** There must be sufficient clearance underneath to prevent a falling person from hitting surfaces or structures.
- **Strength and Mesh:**
  - **Border Ropes:** Must have a minimum breaking strength of 5,000 lbs.
  - **Mesh Opening:** Maximum mesh opening size is 6 inches by 6 inches.
  - **Mesh Crossings:** Must be secured to prevent enlargement.
  - **Impact Resistance:** New nets must withstand a minimum of 17,500 foot-pounds of impact.
- **Inspection and Maintenance:**
  - **Frequency:** Inspected weekly for damage.
- **Removal of Debris:** Tools, equipment, and material must be removed as soon as possible, at least before the next work shift.

## Warning Lines

Are Warning Lines being used at an unprotected side or edge?  
Yes \_\_\_\_ No \_\_\_\_

Do they meet OSHA requirements? Yes \_\_\_\_ No \_\_\_\_

Key requirements to remember:

- **Flagging:** High-visibility material must flag the line at no more than 6-foot intervals.
- **Height:** The line must be between 34 inches (lowest point) and 39 inches (highest point) from the walking working surface.
- **Strength:** The rope, wire, or chain must have a minimum tensile strength of 500lbs.
- **Stanchions:** Must withstand a 16lbs horizontal force applied 30 inches above the surface without tipping.
- **Location:** When no mechanical equipment is used, the line is placed at least 6 feet from the edge. When mechanical equipment is used, the line must be 10 feet from the edge when traveling perpendicular and 6 feet when travelling parallel.
- **Access Path:** Points of access, materials handling areas, and storage areas must be connected to the work area by a path formed by two warning lines.

## Safety Monitor

Has a Safety Monitor been assigned to watch workers on an unprotected side or edge? Yes \_\_\_\_ No \_\_\_\_

Is the assigned worker a Competent Person? Yes \_\_\_\_ No \_\_\_\_

Key requirements to remember :

- **Competence:** The monitor must be a competent person capable of recognizing fall hazards and authorized by the employer to take prompt corrective measures if needed.
- **Proximity:** The monitor must be on the same walking/working surface as the employees and within visual and hearing distance.
- **Communication:** The monitor must be close enough to communicate orally with all employees in a language they can understand.
- **Duties:** The monitor shall not have other responsibilities that could take attention away from the fall monitoring function.
- **Restrictions:** No mechanical equipment can be used or stored in areas where a monitor is the sole method of protection.
- **Scope:** Safety monitors are only allowed for roofing work on low-slope roofs (4 in 12 or less).
- **Combining Methods:** "Warning lines are often used in combination with safety monitoring systems. When a warning line is used, the monitor must be positioned inside the warning line".

## Rescue Systems

Is Rescue Equipment available on site? Yes \_\_\_\_ No \_\_\_\_

Has the Crew been Trained and Authorized in its use? Yes \_\_\_\_ No \_\_\_\_

- OSHA regulations require employers to provide prompt, written, and site-specific rescue plans for suspended workers, as suspension trauma can become fatal in minutes. Rescue plans must outline procedures for self-rescue or assisted rescue, identify specialized equipment (e.g. rescue ladders, winches) and mandate training for all personnel.

Key requirements to remember:

- Prompt Rescue: Plans must ensure rapid rescue to prevent suspension trauma.
- Written Plan: A site-specific rescue plan is mandatory for any work at heights requiring fall protection systems.
- Equipment Identification: The plan must detail the specific rescue equipment to be used, such as specialized kits, ladders, or aerial lifts.
- Qualified Rescuers: Personnel must be trained in both self-rescue and assisted rescue techniques, including the use of rescue equipment, with refresher training at least every two years.
- Anchorage Points: Specific, tested rescue anchor points must be identified.

# #3: Continual Development & Practice of learned skillsets





# Other Supplemental Trainings

## Foreman 1 & 2



Foreman Training Program  
Effective Communication

Foreman Training Program  
Mathematics in Roofing

Foreman Training Program  
Problem Solving & Decision Making

Foreman Training Program  
Safety

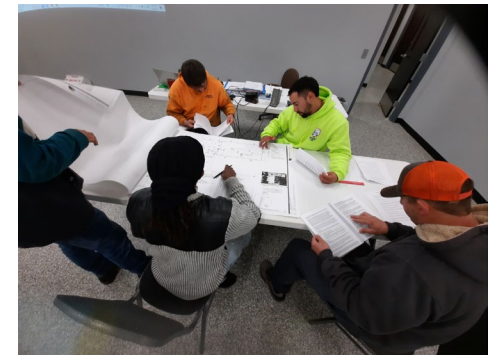
Foreman Training Program  
Teaching and Retention

Foreman Training Program  
Leadership Skills

Foreman Training Program  
Reading Plans & Specifications



Unlawful Harassment in  
Apprenticeship Programs



# **Call to Action for the Employer and Employee**

**“Safety is more important than production and training is more important than profit”**

**“Crews can be productive and safe at the same time, it just takes practice”**

**“Be proactive, not reactive to safety”**

**“A strong safety climate in the workplace yields long-term benefits for the Employer and the Employee including significantly lower injury rates, reduced insurance premiums (via lower EMR), higher worker retention, improved productivity, and enhanced reputation, which leads to more business opportunities in the future. It cultivates a, proactive, stable workforce, lowering long-term operational costs”.**

# For more information on Fall Protection systems or the 2026 Fall Stand Down campaign:

- #StandDown4Safety
- Osha.gov/PreventFalls
- stopconstructionfalls.com



- Fall Protection Toolbox Talk – [English](#), [Spanish](#)
- Fall Protection Checklist – [English](#), [Spanish](#)
- Combined Fall Protection Toolbox Talk and Checklist - [English](#), [Spanish](#)



# Thank you



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