

UC San Diego

EXTENDED STUDIES

Pacific Coast Safety Fest 2026

Fall Protection and Prevention

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Fall Protection and Prevention
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Learning Objectives

- The importance of protecting workers from falls
- How to recognize fall hazards
- Discuss the hierarchy of controls for fall hazards
- Selection of fall protection methods
- Describe OSHA regulations and resources that address fall protection

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Are Falls a Problem?

- Falls were the second most common fatal injury in all industries
 - Fatalities in all industries – 5,070; Falls – 844 **(16.6%)**
- Falls were number one in the construction industry
 - Fatalities in construction – 1,034; Falls - 389 **(37.6%)**
- Fall to a lower level – 78.9%
- Slip, trip or stumble on same level – 17.7%

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Source: Bureau of Labor Statistics for 2024

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3 Reasons Why Businesses Should Prevent Workers from Falling

- Regulatory
OSHA
- Financial
Insured and uninsured costs
- Humanitarian

**Effects on the individual, the family,
the co-workers and the business**

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Recognizing Fall Hazards

- In General Industry:
 - Open sided floors, walkways and platforms
 - Ladders
 - Scaffolds
 - Stairways
 - Openings and holes

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In General Industry

Open-Sided Floors and Platforms

- Open-sided floors or platforms **4 feet** or more above adjacent floor or ground level must be guarded by a standard railing (or equivalent) on all open sides, except where there is an entrance to a ramp, stairway, or fixed ladder
- A toeboard is required when, beneath the open sides:
 - persons can pass,
 - there is moving machinery, or
 - there is equipment with which falling materials could create a hazard



Unguarded Platform

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In General Industry

Open-Sided Floors and Platforms

Regardless of height, a standard railing and toeboard must be used to guard:

- open-sided floors
- walkways
- platforms, or
- runways

above or adjacent to dangerous equipment, pickling or galvanizing tanks, degreasing units, and similar hazards.

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Fall Hazards



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Fall Hazards



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Recognizing Fall Hazards

- In Construction
 - Unprotected sides and edges
 - Openings and holes
 - Roofs
 - Ladders
 - Scaffolds
 - Elevated work platforms
 - Other elevated work surfaces

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In Construction

Unprotected Sides or Edges

Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is **6 feet** (1.8 m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems or personal fall arrest systems



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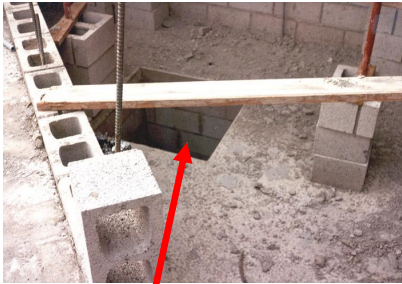
Unprotected Sides or Edges



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Openings and Holes



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Roofs



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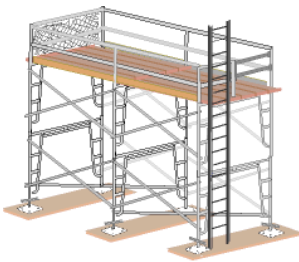
Ladders



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Scaffolds



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Hazards?



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Hierarchy of Fall Hazard Control

- Engineer out and ensure the structural integrity of the work surface
- Administratively prohibit exposure
- Personal protective equipment
 - Prevention of falls
 - Arresting falls

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Eight Step Approach to Fall Protection

- Determine if walking/working surfaces are structurally sound
- Conduct a fall assessment
- Eliminate the need for fall protection
- Select the type of fall protection system
- Develop rescue/retrieval procedures
- Develop equipment inspection, maintenance, and storage programs
- Provide fall protection training
- Monitor the fall protection program

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Step 1

- Determine if walking/working surfaces are structurally safe



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Step 2

- Conduct a fall hazard assessment



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Step 3

- Eliminate the need for fall protection, if possible



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Step 4

- Select the appropriate types of fall protection systems



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Two Ways to Prevent Fall Injuries

- Fall Prevention
 - Guardrails
 - Restraint devices
 - Hole covers
- Fall Arrest
 - Personal Fall Arrest Systems (PFAS)
 - Safety Nets
 - Catch platforms

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Fall Prevention: Guardrail Systems



Photo Source Credit: Associated General Contractors of America, Fall Protection Training in the Construction Industry, 2004.

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**Fall Prevention:
Fall Restraint Systems**

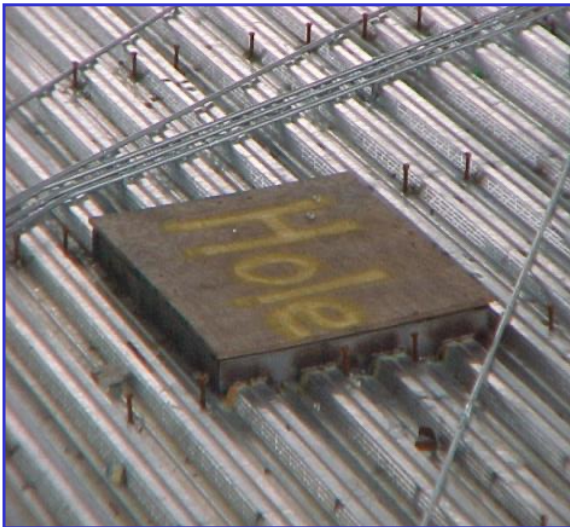


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**Fall Prevention:
Hole Covers**



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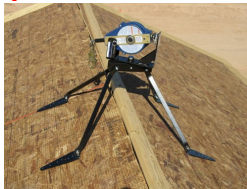
**Fall Arrest:
Personal Fall Arrest
Systems (PFAS)**



Lanyards



Harnesses



Lifelines



Connectors



Anchors

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**Fall Arrest:
Safety-Net Systems**



Photo Source Credit: Associated General Contractors of America, Fall Protection Training in the Construction Industry, 2004.

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Fall Arrest: Catch Platform



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Photo: Washington State Dept. of Labor & Industries

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Other Systems (May Be Used in Certain Situations)

- Positioning device systems
- Warning line systems
- Safety monitoring systems
- Controlled access zones

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Step 5

- Develop rescue/retrieval systems



Photo Source Credit: Oregon OSHA Fall Protection Workshop Materials, 2004.

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Step 6

- Develop an equipment inspection, maintenance, and storage program



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Step 7

- Provide fall protection training



Photo Source Credit: Associated General Contractors of America, Fall Protection Training in the Construction Industry, 2004.

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Step 8

- Monitor the fall protection program
- Investigate incidents to determine if the program needs to be revised



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Promote Your Fall Protection Program

Managers, supervisors and other staff need to actively support the use of fall protection systems and equipment and encourage employee involvement and support of program

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OSHA Fall Protection Standards

- CFR 1910 – General Industry Regulations
 - Subpart D – Walking and Working Surfaces
- CFR 1915 – Shipyard Employment Regulations
 - Subpart E – Scaffolds, Ladders and Other Working Surfaces
- CFR 1926 – Construction Industry Regulations
 - Subpart L – Scaffolds
 - Subpart M – Fall Protection

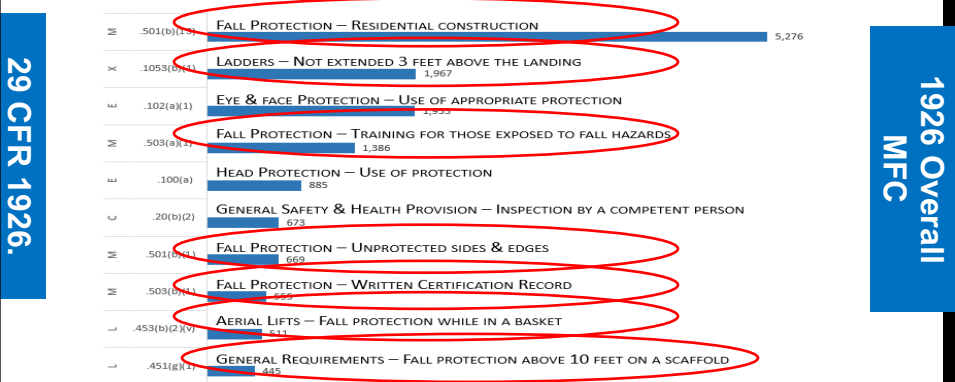
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Most Common OSHA Violations

- Fall protection doesn't rank in the top ten for General Industry serious violations
- But in construction.....

Most Frequently Cited Serious Violations in Construction FY 2025



OSHA Resources

OSHA ▾ STANDARDS ▾ ENFORCEMENT ▾ TOPICS ▾ HELP AND RESOURCES ▾ NEWS ▾

Home > Safety and Health Topics > Fall Protection

Fall Protection



- Construction Standards and Resources
- Non-Construction Standards/Policy
- Protecting Workers from Falls
- Additional Resources
- Workers' Rights

Overview

OSHA has developed this webpage to provide workers and employers useful, up-to-date information on fall protection.

Why is fall protection important?

Falls are among the most common causes of serious work related injuries and deaths. Employers must set up the work place to prevent employees from falling off of overhead platforms, elevated work stations or into holes in the floor and walls.

What can be done to reduce falls?

Employers must set up the work place to prevent employees from falling off of overhead platforms, elevated work stations or into holes in the floor and walls. OSHA requires that fall protection be provided at elevations of four feet in general industry workplaces, five feet in shipyards, six feet in the construction industry and eight feet in longshoring operations. In addition, OSHA requires that fall protection be provided when working over dangerous equipment and machinery, regardless of the fall distance.

National Safety Stand-Down

Find Out More!

Preventing Falls in Construction


Highlights

- [Engulfment in a Sugar Hooper](#), OSHA Fatal Facts No. 10, (2015).
- [Protecting Roofing Workers](#), OSHA Publication 3755, (2015).
- [Fall Protection in Construction](#), OSHA Publication 3146, (2015).

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OSHA Resources

Fall Protection



- Construction Standards and Resources
- Non-Construction Standards/Policy
- Protecting Workers from Falls
- Additional Resources
- Workers' Rights

Additional Resources

Training

- [OSHA Training](#): Provides links to training and education resources as well as courses provided by the OSHA Training Institute in occupational safety and health for federal and state compliance officers, state consultants, other federal agency personnel, and the private sector.
- [Small Business Safety and Health Handbook](#), OSHA Publication 2209, (2024) [Español] OSHA Publication 4261, (2024). Summarizes the benefits of an effective safety and health program, provides self-inspection checklists for employers to identify workplace hazards, and reviews key workplace safety and health resources for small businesses.
- [Construction Industry Outreach Training Program](#): OSHA.
- [Fall Protection - Roofing](#), Washington State Video, (2013).
- [Fall Protection - Trades](#), Washington State Video, (2013).
- [Keeping Cement Masons Safe: Preventing Falls, Struck and Caught Between Accidents](#) ¹, Washington Safety and Health Training Institute (WASHTI) via Electronic Library of Construction and Occupational Safety and Health (ELCOSH); The Center for Construction Research and Training (CPWR) Information on steps cement masons can take to avoid falls, struck-by and caught-between accidents, including data on the frequency and risk of these types of injuries. [Fall Protection Case Studies](#) ¹. [The Labor Occupational Health Program \(LOHP\) at UC Berkeley](#) via Electronic Library of Construction and Occupational Safety and Health (ELCOSH); The Center for Construction Research and Training (CPWR). A case study of a laborer falling through a roof and an ironworker falling off a beam, both with preventative measures.

Preventing Falls in Construction

Highlights

- [Engulfment in a Sugar Hooper](#), OSHA Fatal Facts No. 10, (2015).
- [Protecting Roofing Workers](#), OSHA Publication 3755, (2015).
- [Fall Protection in Construction](#), OSHA Publication 3146, (2015).
- [Narrow Frame Scaffolds](#), OSHA Fact Sheet (Publication 3722), (April 2014).
- [Material Hoist Collapse](#), OSHA Fatal Facts No. 8, (2014).
- [Falling OPE Ladders Can Kill: Use Them Safely | Las caídas desde escaleras pueden ser mortales: Uselas de forma segura \(EPUB\) MOBI](#), OSHA Publication 3625, (2013).
- [Prevention Videos \(v-Tools\)](#):

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Course Summary

- During this session, you have been introduced to:
 - Why it's important to protect workers from falls
 - How to recognize fall hazards
 - The hierarchy of controls for fall hazards
 - Selection of fall protection methods
 - OSHA regulations and resources that address fall protection

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Questions?

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