

Simplifying OSHA Rooftop Fall Protection Requirements

IDENTIFYING RISKS TO ENHANCE ROOFTOP SAFETY



SEPARATING PEOPLE FROM HAZARDS

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General Manager: Kee Safety, Inc.



City
& Guilds



OSHA®

EHS Today



DAN HUNTINGTON

FALL PROTECTION INDUSTRY EXPERT

In Fall Protection Industry for Over a Decade

- Spends the majority of time on roofs assessing hazards

Training:

- OSHA Fall Protection Competent Person
- OSHA 30 Hour
- Level III Award in Training and Education
- IOSH Certifications:
 - Work at Height Risk Assessment
 - Work at Height Rescue

Publications:

- Written articles for OH&S Magazine
- Professional Development Webinar for EHS Today
- Speaker at 2019 International Society for Fall Protection Symposium
- Fall Protection Expert Witness
- 2023 OH&S SafetyPod Guest

Upcoming Presenter:

- Western Roofing Expo (Las Vegas)



SEPARATING PEOPLE FROM HAZARDS

OVERVIEW

What are the 3 most common rooftop Hazards?

- Applicable OSHA codes

How should I protect these hazards?

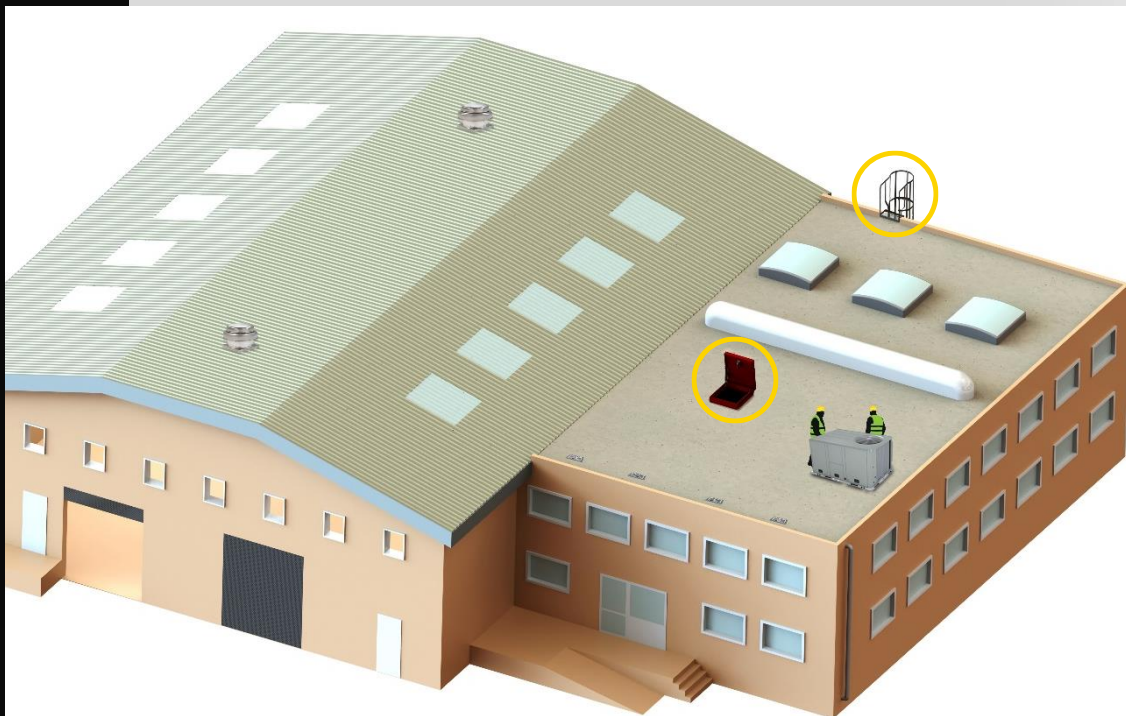
- Kee Safety Solutions



HAZARD OVERVIEW: ACCESS POINTS

OSHA Code Addressing Hazard:
1910.28(b)(3)(iv)

*Each employee is protected from falling into a ladderway floor hole or ladderway platform hole by a guardrail system and toeboards erected on all exposed sides, except at the entrance to the hole, where a **self-closing gate** or an offset **must** be used. **



1910.28(b)(13) – Risk Assessment Matrix

SEPARATING PEOPLE FROM HAZARDS



		FREQUENCY OF EXPOSURE					Risk Assessment Matrix
		1 NEAR IMPOSSIBLE	2 UNLIKELY	3 POSSIBLE CHANCE	4 LIKELY	5 ALMOST CERTAIN	
POTENTIAL SEVERITY	1 INSIGNIFICANT	1	2	3	4	5	
	2 MINOR INJURIES	2	4	6	8	10	
	3 NOTABLE INJURIES	3	6	9	12	15	
	4 MAJOR INJURIES	4	8	12	16	20	
	5 DEBILITATING INJURY DEATH	5	10	15	20	25	

HAZARD OVERVIEW:

ACCESS POINTS - EXAMPLE

Which hazard are workers exposed to most frequently?



ACCESS POINTS: FAQ

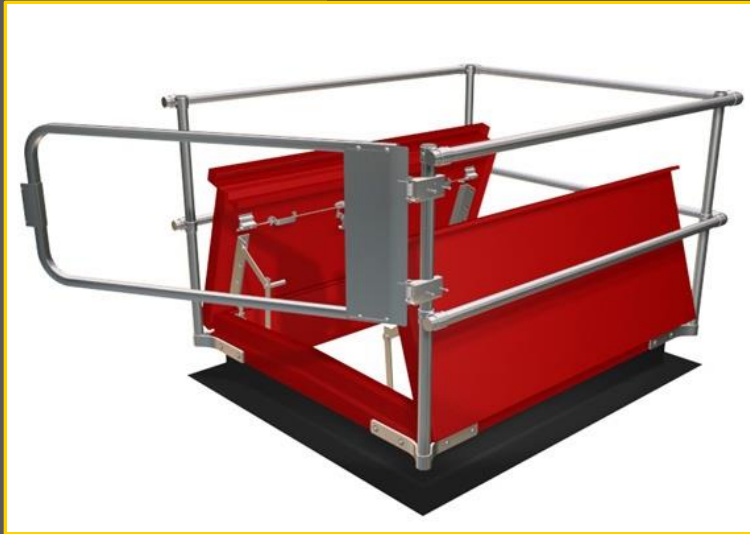
Can I use chains instead of a self-closing gate?

Using a chain as ladder protection is not recommended or compliant with OSHA regulations. Chains cannot close themselves, and relying on someone else to reattach the chain poses safety hazards. Reattaching the chain while descending the ladder puts the worker in a precarious position. A self-closing gate always provides reliable protection, eliminating user error. OSHA mandates the use of guardrails, toe-boards, self-closing gates, or offsets at ladderway entrances to prevent falls. Replace chains with compliant gates on ladders and ensure OSHA-compliant equipment. Seek professional assistance for assessments and compliance.

When do I need a vertical climbing device on my ladder?

Fixed ladder systems are prevalent in various industries such as cell phone towers, oil platforms, storage silos, water towers, and wind turbines. However, workers climbing these permanently fixed ladders often have a false sense of security. OSHA regulations require the use of a vertical lifeline or a ladder equipped with a cage system for fixed ladders over 24 feet. It is recommended to use vertical lifelines instead of ladder cages as cages do not prevent vertical falls. If a worker slips on a ladder rung with a cage system, they can fall to the ground or collide with the cage, making rescue challenging.





HAZARD SOLUTION: KEE HATCH

- Fully OHSA compliant
- Specially designed for safe egress and ingress through roof hatches
- Provides protection to the roof opening when the hatch is open
- Suitable for all roof hatches
- Easily integrates with existing openings and ladderways
- Kee Hatch Access Guardrail is a safe and reliable solution for rooftop access and fall protection.



HAZARD SOLUTION: KEE GUARD LADDER KIT

- Uses ladder Clamps to mounts to all ladder types
- Offset mounted gate for easy roof access
- Will not penetrate roof, void warranties, or cause roof leaks
- Simple to install
- Cost effective, simple, OSHA compliant Solution

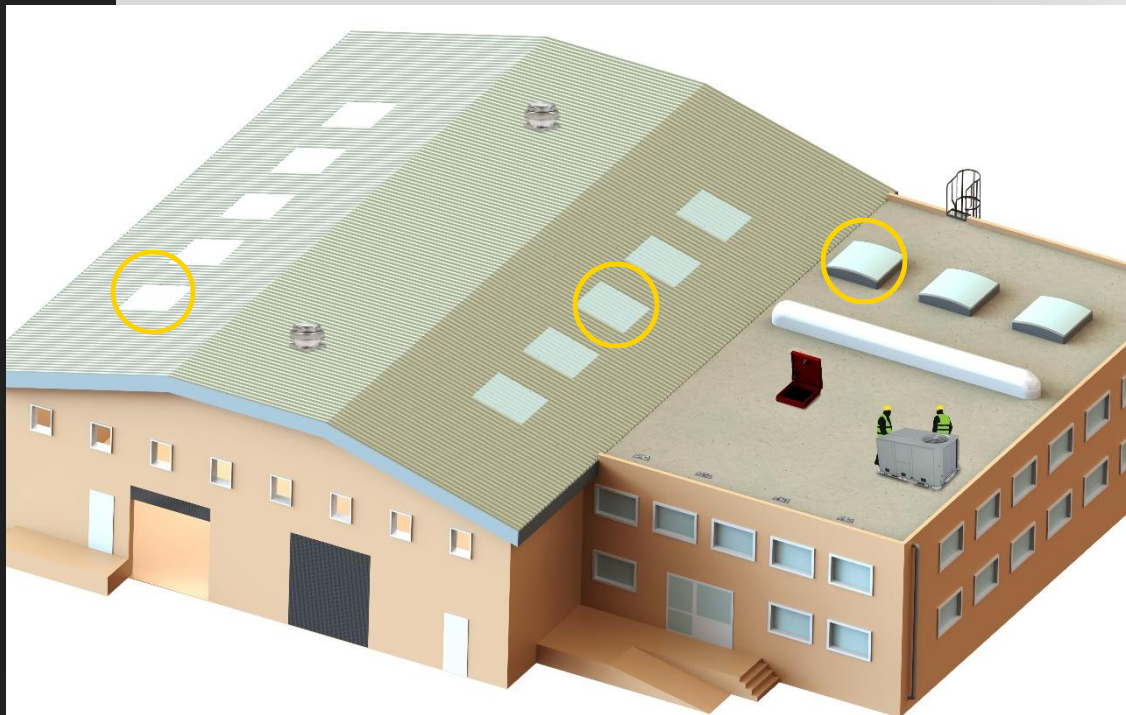
HAZARD OVERVIEW:

Unprotected Skylights

OSHA Code Addressing Hazard:
1910.28(b)(3)(i)

Each employee is protected from falling through any hole (including skylights) that is 4 feet (1.2 m) or more above a lower level by one or more of the following:

- Covers
- Guardrail Systems
- Travel Restraint Systems; or
- Personal Fall Arrest System



OPENINGS: FAQ

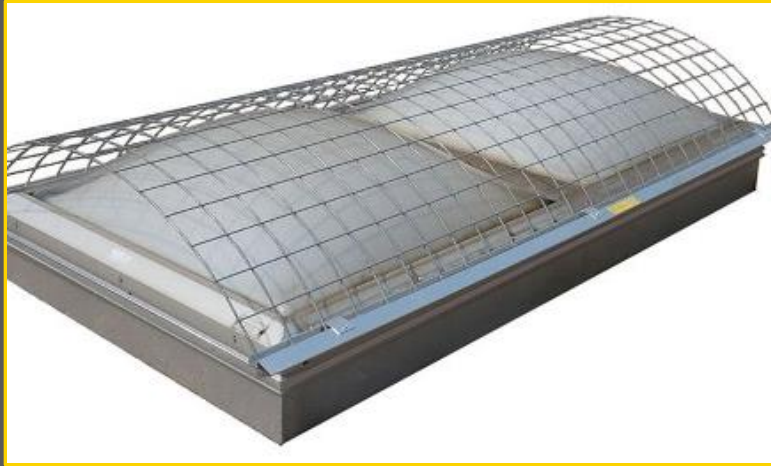
Is my skylight fall protection rated?

Skylights are typically manufactured out of a polymer or plastic dome. Over time, UV degradation breaks down the strength of that dome, much like plastic deck furniture starts to breakdown in the sunlight over the years. As time passes, the dome becomes brittle, making the falls through skylights one of the top causes of rooftop falls. Many skylights have stickers on the side that state "danger risk of fall" However, if you do not see that warning sticker on the curb of your skylight you are not necessarily safe, it is very likely the sticker may be completely sun-faded.

I have bars under my skylight, do I need to protect the dome?

Bars welded under a skylight are typically referred to as "burglar bars" and are designed to keep would-be thieves from breaking the skylight to access the facility and steal the equipment. OSHA requires that all skylight "covers" are required to be able to take twice the intended load, and the bars or wiring under the skylight may not be able to withstand the loadings. Additionally, bars below the dome do not eliminate all hazards associated with a fall. In the event of a fall, the dome will break and potentially cause lacerations on the injured party. Furthermore, debris and biological containments will fall into the people or process below the skylight.





HAZARD SOLUTION: KEE COVER

- Kee Cover® Skylight Screens provide protection from falling through fragile roof lights
- Specifically designed to cover unprotected roof lights
- Does not block out the light that the roof lights are supposed to let into a building
- Offers an effective solution for fragile roof light protection
- Helps to prevent falls from height and comply with safety regulations
- Kee Cover® Skylight Screens are a reliable and cost-effective way to enhance roof light safety.



HAZARD SOLUTION: KEE DOME

- Kee Dome® is a modular system designed to prevent falls through skylights, roof lights, and dome lights
- Offers effective protection for workers accessing rooftops for repair and maintenance work
- Specifically designed to reduce the risk of falls through glazed areas
- Easy to install and compatible with a range of glazing systems
- Modular design makes it suitable for a wide range of applications and configurations

HAZARD OVERVIEW: UNPROTECTED EDGES

OSHA 1910.28 (b)(13) - Work on low-slope roofs.

(i) When work is performed **less than 6 feet** from the roof edge, the employer must ensure each employee is protected from falling by a guardrail system, safety net system, travel restraint system, or personal fall arrest system.

(ii) When work is performed **at least 6 feet but less than 15 feet from the roof edge**, the employer must ensure each employee is protected from falling by using a guardrail system, safety net system, travel restraint system, or personal fall arrest system. The employer may use a designated area when performing work that is both **Infrequent and temporary**.

(iii) When work is performed **15 feet or more from the roof edge**, the employer must:

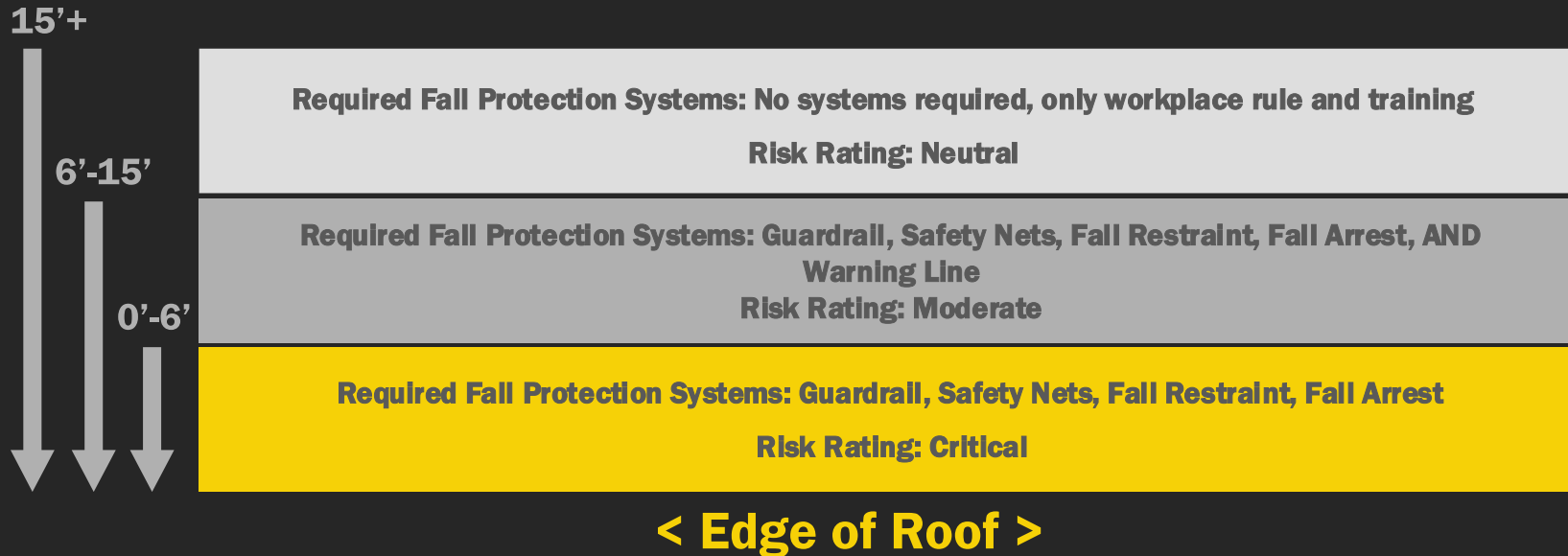
(A) Protect each employee from falling by a guardrail system, safety net system, travel restraint system, or personal fall arrest system or a designated area. The employer is not required to provide any fall protection, provided the work is both **Infrequent and temporary**; and

(B) Implement and enforce a work rule prohibiting employees from going within 15 feet (4.6 m) of the roof edge without using fall protection in accordance with paragraphs (b)(13)(i) and (ii) of this section.



1910.28(b)(13) – Graphic

SEPARATING PEOPLE FROM HAZARDS



1910.28(b)(13) – Risk Assessment Matrix

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POTENTIAL SEVERITY

	1 NEAR IMPOSSIBLE	2 UNLIKELY	3 POSSIBLE CHANCE	4 LIKELY	5 ALMOST CERTAIN
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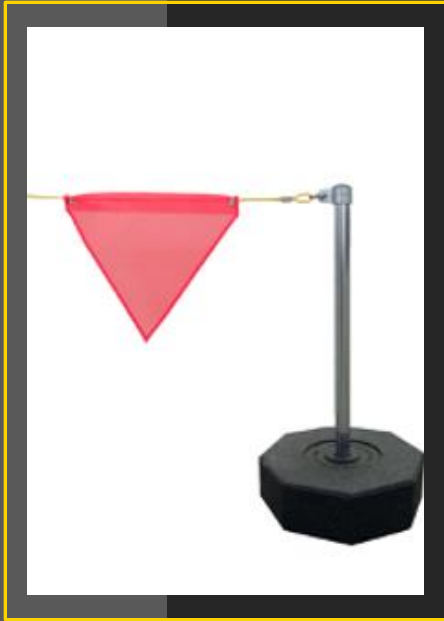
Risk Assessment Matrix

Risk Assessment Matrix



HAZARD SOLUTION: KEE GUARD

- Kee Guard is the industry-leading modular, free-standing safety railing system
- OSHA compliant and suitable for virtually any flat roof up to a 5 ° slope
- Provides superior rooftop fall protection and keeps your workforce safe
- Recognized as the safety rail standard for rooftop fall protection worldwide
- A cost-effective and reliable solution for enhancing rooftop safety and protecting workers from falls.



HAZARD SOLUTION: KEE MARK

- Non-penetrating
- Designed for permanent use
- Meets OSHA requirements for demarcation
- Cost effective component of an OSHA compliant rooftop



SEPARATING PEOPLE FROM HAZARDS

HIERARCHY OF FALL PROTECTION

Maximizing Rooftop Safety: A Four-Level Hierarchy of Fall Protection Solution

A truly comprehensive rooftop solution follows the Hierarchy of Fall Protection, the gold-standard of safety procedures. An expert starts by inspecting the roof site for potential fall hazards. From there, a complete system solution and recommendations that descend down the four levels of the hierarchy—from simple, sensible approaches for eliminating risks all the way down to lifesaving personal protection systems.

Collective Systems require no additional training to use. Work Restraint and Fall Arrest Systems both require a high level of user competency, training and additional inspection to be used effectively.

LOW SEVERITY



HIGH SEVERITY



1

ELIMINATE HAZARDS

The preferred solution to all fall hazards is elimination of the danger.



ROOFTOP EXAMPLE: SKYLIGHT PROTECTION

Remove skylight and roof over it.

2

COLLECTIVE

This solution “collectively” protects everyone. Rooftop perimeter guardrail is the most common example of collective fall protection.



Put a screen over or railing around the skylight

3

WORK RESTRAINT

Prevents a fall from occurring by using personal fall arrest equipment so that the user cannot reach the roof edge.



Anchor Point designed to keep user 2 feet away from skylight

4

FALL ARREST SYSTEM

A fall is possible, but the fall is “arrested” or interrupted within an acceptable force and fall distance.



Anchor point designed to allow user to fall through the light but not impact lower level.

IS YOUR ROOFTOP SAFE?

TAKE OUR FREE INTERACTIVE ROOFTOP SAFETY AUDIT

Instant Insights – Get a high-level safety assessment of your rooftop in minutes. Answer a few quick questions to identify potential hazards and receive an **Instant evaluation with actionable Insights**—no commitment required, just a fast and easy way to understand your rooftop safety risks.



INSTANT FEEDBACK

Get a quick, high-level view of your rooftop's safety status without any obligation.



SAVE TIME

Narrow down your specific needs before reaching out to our sales team, making consultations more efficient.



PROACTIVE COMPLIANCE

Stay ahead of evolving safety regulations and ensure your facility meets the highest standards.

VISIT: keesafety.com/guides/is-your-rooftop-safe

