



SEPARATING PEOPLE FROM HAZARDS

# The Cost of Doing Nothing

THE TRUE RISK AND LIABILITY  
OF AN UNPROTECTED ROOFTOP

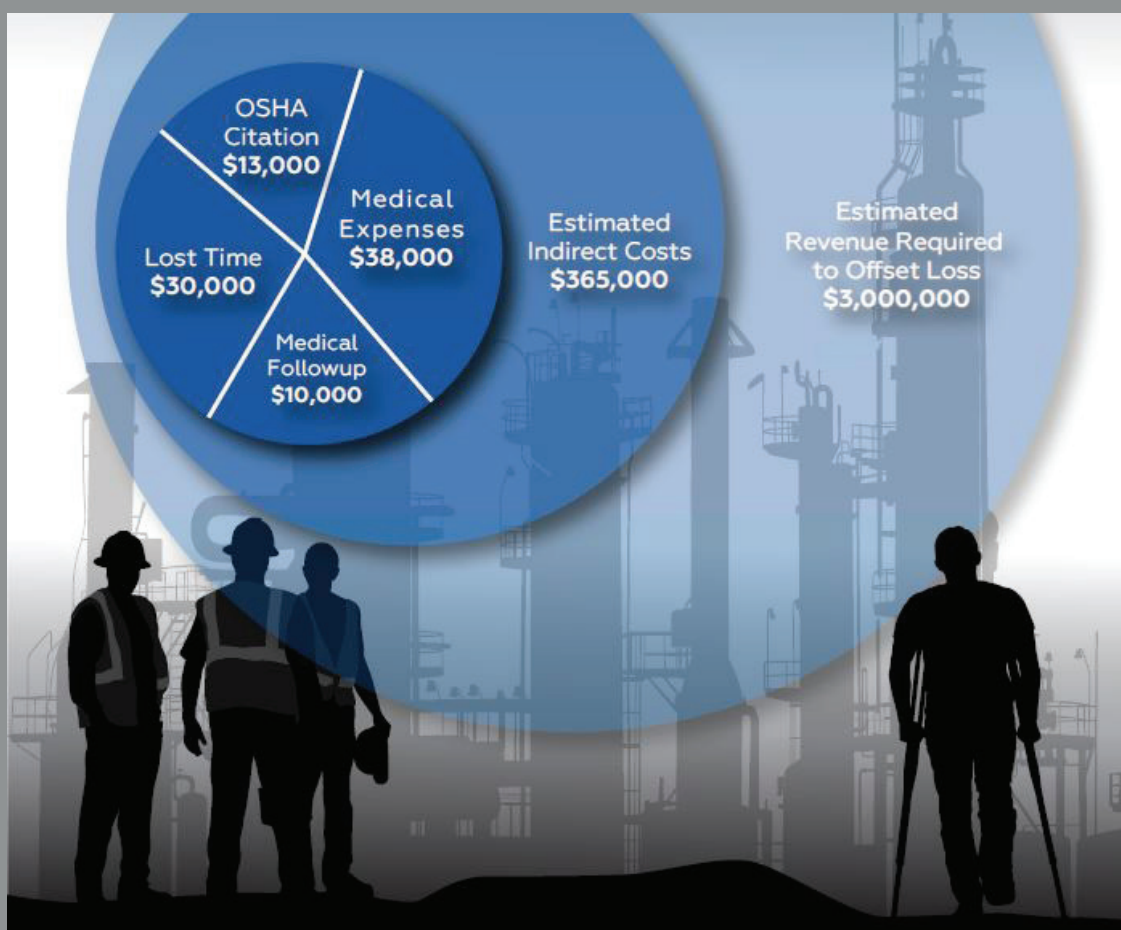


## An Investment in Compliance

The True Risk and Liability of an Unprotected Rooftop

Falls from height are the most common of all serious workplace injuries. The impact of a fall is devastating for the victim. The costs to the company are financially, operationally, and legally overwhelming: OSHA fines, disability claims, hospitalization expenses, insurance premiums, time lost on the job, and legal fees.

According to Department of Labor and other resources, the estimated revenue required to offset loss when a fall occurs is \$3,000,000. Don't wait for a fall to occur before taking action to update your fall protection plan. When identifying a fall hazard, analyze the likelihood of fatal or serious injury, as well as the amount of time employees will be exposed to the hazard. You will want to eliminate the chance of a fall and thereby remove the risk for liability by changing the work process or the environment.



Department of Labor 2018, OSHA 2017, CDC 2017



## How to Protect Workers and Mitigate Risk

OSHA has consistently provided guidance on fall protection codes and its definitions for compliance. The safety industry has responded with increasingly sophisticated fall protection products and systems. Yet, falls from working at height remains a serious occupational safety challenge in the manufacturing workplace and on the industrial rooftop.

The initial step to mitigate risk and reduce liability is to conduct a hazard assessment of the rooftop environment. The second step is to develop a comprehensive fall protection plan. Assessing all possible all hazards before the work begins on the roof will help to manage exposure to danger and focus attention on prevention efforts. In some cases, the hazard can be eliminated altogether. An example would be relocating HVAC systems to ground level or removing skylights that require high maintenance.

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





### **Training is Key**

Even a well-planned fall protection program will fail if personnel on the job do not use the equipment provided - or do not use it correctly. Training all workers on the proper use of safety products and systems is imperative to a successful fall protection strategy. Training can be conducted by an internal safety program or an outside agency. Often, the fall protection expert is the company who manufactures and installs the rooftop system, and they will provide training on how to use their products with safety and proficiency.

### **Rooftop Perimeter Plan**

OSHA regulations provide options in rooftop systems depending on the distance from the edge that personnel are to work. A collective system—such as guardrail—is the most obvious solution to protecting the perimeter of the roof. This solution “collectively” protects everyone with minimal training to maintain safety compliance. Guardrails provide a barrier to prevent falls so everyone on the roof is protected.

### **Fall Restraint or Fall Arrest**

A Fall Restraint System prevents a fall from occurring by using personal fall restraint equipment prohibiting the user from reaching the roof edge. A personal fall restraint system uses three key components: an anchorage system or anchor point, a connector line with a connecting device, and a suitable safety harness. The roof anchor and lifeline will not permit the harnessed user to move more than the safe length of the line.



A Fall Arrest System is defined as allowing a fall to occur, but the fall is interrupted or “arrested” within an acceptable force and fall distance. The challenge of this type of system is that it must be engineered to account for the users’ weight and height, and calculations made when determining distance factors to ensure the worker is not injured in the fall. Fall arrest products stop a fall that is already happening and therefore requires diligent training and rescue planning.

When personal fall protection systems are used, particular attention should be given to identifying secure attachment points and to ensuring that everyone knows how to properly don, doff and inspect the equipment. Selecting high-performance anchorages is another important consideration when choosing a fall restraint or fall arrest system. The best harness with the best lanyard or lifeline cannot stop a fall if insufficient anchor points are selected. An anchorage must support 5,000 pounds for a single tie-off point for one individual.



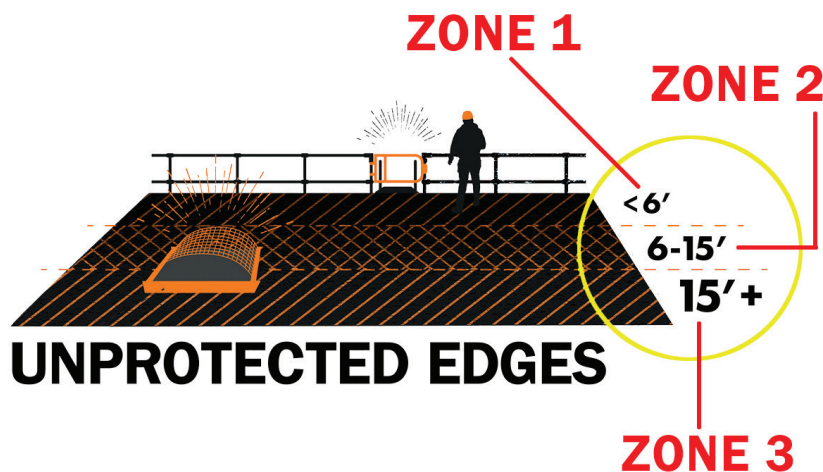
## Understanding Work Zones

The edge of the roof is the most visible hazard, and typically the hazard most people want to protect first. Proximity to the roof edge is a significant factor in identifying the likelihood of an accident occurring.

OSHA gives clear instructions on working specific distances from the roof edge. Working less than 6 feet requires guardrail, travel restraint or fall arrest systems. Working between 6 and 15 feet requires the same protocols but also permits the use of a designated area to work safely.

When working more than 15 feet from the edge the use of warning lines, designated areas, control zones and similar systems are permitted by OSHA in some situations and can provide protection by limiting the number of workers exposed on the rooftop and setting up safe work methods and procedures.

These alternative systems may be more appropriate than conventional fall protection systems when performing certain activities such as temporary and infrequent work on the roof.



## Get in the Zone

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### Zone 1:

When work is performed less than 6 feet from the roof edge, employees must be protected from falling by a guardrail system, a travel restraint system, or personal fall arrest system.

2

### Zone 2:

Working 6 to 15 feet from the roof edge, employees must be protected with the same systems mentioned above; however, a designated area may be implemented when rooftop work is both infrequent and temporary.

3

### Zone 3:

Working 15 feet or more from the roof edge has the same criteria as above; however, implementation, training, and enforcement of a work rule that prohibits access within 15 feet of the roof edge without using fall protection is acceptable. This applies only if the work is both temporary and infrequent.

### OSHA's Definition of Infrequent and Temporary:

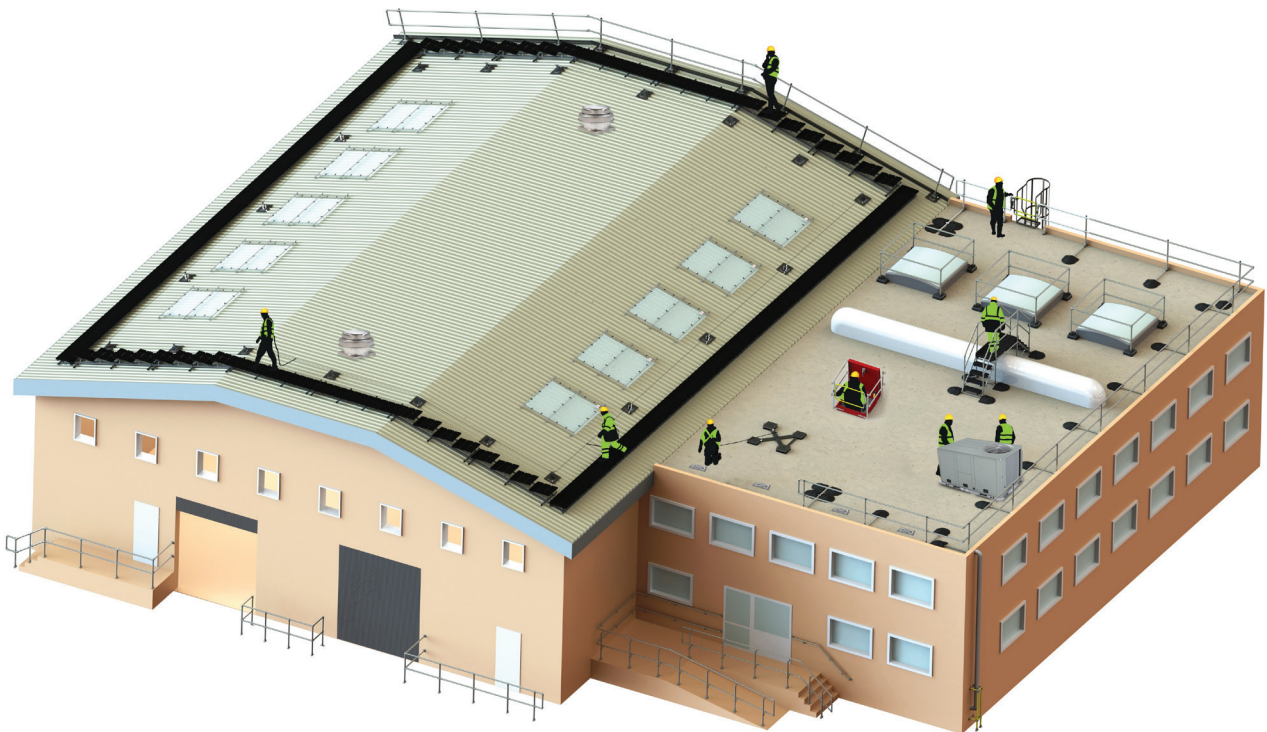
Infrequent means that the work is performed occasionally. Infrequent work is usually performed once a year, once a month, or as needed. Daily, regular, or routine tasks are not infrequent.

Temporary means that the work is brief or short. Temporary tasks usually take less than two hours to complete and are not complicated.

### **More than the Leading Edge**

Statistically, more people fall through skylights than over the open edge of a roof. As a worker is traversing the middle of the rooftop, they have a false sense of security. Operating far from the roof edge, carrying equipment, or focused on the job at hand, it is easy to misstep and fall through an unprotected skylight opening. Rooftop openings are the most often overlooked hazard, so they are extremely critical to protect. OSHA considers skylights to be a hole in the rooftop which is why Kee Safety evaluates all rooftop openings as a serious risk concern.

Additional attention should be given to access points and understanding how workers enter and exit the roof to perform tasks. Access points are the most frequented hazard on any rooftop. A safety assessment would make certain that ladder ways and hatches are protected with OSHA compliant guardrail and self-closing gates.



### **Protect All Your Assets**

According to OSHA, slips, trips, and falls cause nearly 20% of all job-related accidents and rooftop falls are one of the most common causes of serious workplace injury and death. It is important to assess your rooftop with a leading expert in fall protection to safeguard your most valuable company assets: your employees.

The OSHA fines associated by non-compliance are costly and entire rooftops could be shut down while violations are addressed, and hazards are remedied. This lost time affects important MRO (maintenance, repair, and operations) which is essential to any company where manufacturing or engineering systems are involved. Claims, premiums, and legal fees also reflect a company's reputation and ultimately, impact their bottom line.

Separating people from hazards with OSHA compliant fall protection solutions will create a culture of safety and trust for your employees and preserve your company from risk and liability in the future.





**Contact one of our qualified Fall Protection Experts and schedule a rooftop safety assessment today!**



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