MAKE THE MOST OF YOUR INVESTMENT IN FALL PROTECTION PPE

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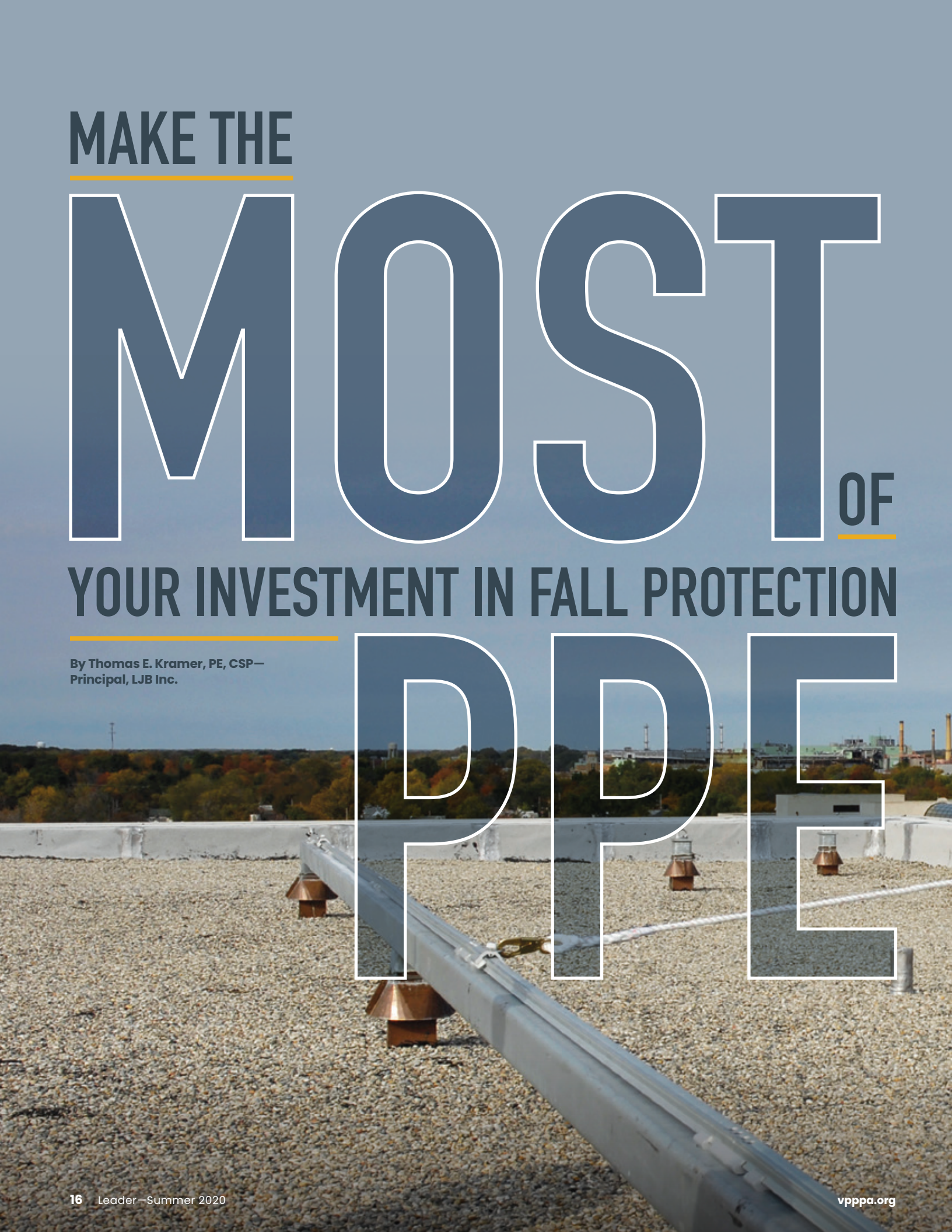

Fall protection equipment is the most visible aspect of a fall protection program, and it can also be the most costly. Unfortunately, these investments can be poured down the drain if personal fall protection systems are not implemented correctly. Buying equipment, giving it to workers and doing a few toolbox talks is not enough. Properly stocking, maintaining, servicing and using fall protection equipment can be the difference between life and death for workers at height.

When workers aren't given everything they need to safely implement PPE, they can suffer from a false sense of security. If fall protection equipment is not the most effective solution, or workers are not trained to use it properly, hazards can actually be increased. Here are some tips to not only protect your personnel, but also your investment in fall protection PPE.

Minimize Use

The prevalence of fall protection equipment on the market—combined with the perceived ease of use and relatively low initial cost—often leads organizations to choose equipment as the solution for many fall hazards. However, statistics show that overall fall fatalities and the associated costs to organizations are increasing, even though the amount of money spent on personal protective equipment has made fall protection PPE a nearly billion-dollar industry. Clearly, buying equipment is not enough to ensure safety.

When selecting abatement solutions, guidance should be taken from the Hierarchy of Controls. According to this widely accepted strategy, which measures the effectiveness and defeatability of hazard abatement methods, PPE should always be the last choice for a solution and only used when other options are not feasible. To reduce the most risk and minimize long-term costs, organizations should favor elimination, substitution and engineering control solutions.

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With engineering control solutions, employees have to actively overcome barriers to put themselves at risk. On the other hand, using PPE-based solutions means you haven't removed the workers from the hazard or the hazard from the workers.

Since PPE is the most defeatable—or easiest to overcome—solution, relying on PPE leaves an organization with significant residual risk. Personal fall protection systems can be extremely complex, especially relative to engineering controls. Some potential concerns with fall protection equipment are:

- Condition of individual equipment components
- Proper equipment specified for the system
- Equipment component compatibility
- Adherence to free fall limitations
- Fall clearance requirements
- Swing fall hazards
- Potential for misuse

Obtain Stakeholder Input

Because worker tasks and behaviors affect many aspects of fall protection systems, it's critical to engage all stakeholders in the evaluation process before equipment is purchased or a fall protection system is designed and installed. An organization can easily lose time, money, safety and productivity if the wrong solutions are implemented.

By understanding how workers would use different abatement options, organizations can select the most functional solution, rather than dictating one and forcing workers to adjust. Otherwise, the solutions may be technically compliant, but functionally impractical for workers, and possibly, unsafe. When the best fall protection solution is not obvious or cannot be agreed, it can be helpful to invest in a conceptual design process, where options are discussed and debated to achieve group endorsement of a solution. When employee input helps determine solutions, organizations benefit from more buy-in, enhanced productivity and increased morale for their program.

Follow Manufacturer's Instructions

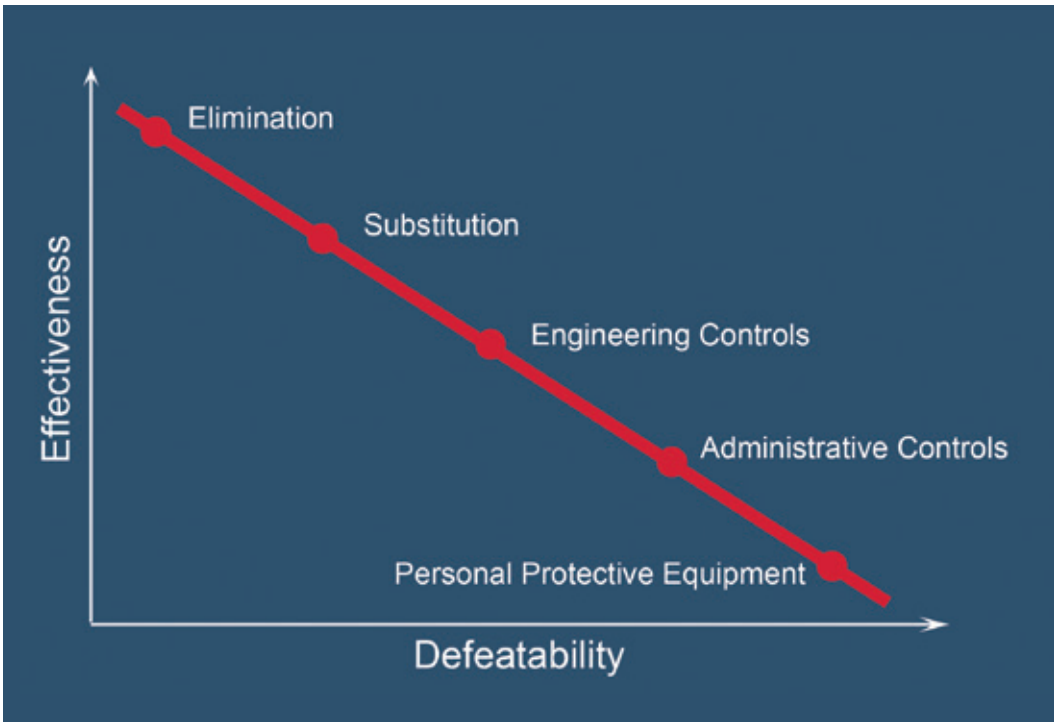
It is critical to ensure that workers are using the equipment in a way that clearly aligns with the manufacturer's instructions. If not, it is likely that the manufacturer hasn't tested it accordingly, which could lead to catastrophic failure. And, if a worker uses it outside its intended use, the manufacturer may not be liable in the event of a fall incident. Recently, more organizations have been asking equipment manufacturers for additional testing to ensure the product is fit for their specific applications.

Manufacturers and distributors are required to provide information on proper use and potential limitations in the instruction material provided with the product.

Relevant information can also be found within the ANSI Z359 product standards that provide guidance on the use and limitations associated with specific product categories.

Use Guidance From ANSI Z359 Standards

Expanding on that last point, when it's time to buy new equipment, the ANSI/ASSP Z359.1-2016 standard—officially named the Fall Protection Code—is the most current and robust resource for information to ensure procurement of the right equipment to meet today's standards. And, it is frequently being updated.



The goal of fall protection training is to impact behavior. Adult learners especially need to understand how the information they're being trained on effects their day-to-day work.

First, it's important to note that a voluntary consensus standard like ANSI is not the law, but it complements OSHA and other governmental regulations. Even with the updated OSHA rule on walking-working surfaces and fall protection systems becoming effective in 2017, the general nature of OSHA regulations does not provide specific guidance about the fall protection equipment being used in the market today.

For equipment components, the Z359 standards establish requirements for performance, design, marking, qualification, instruction, training, inspection, use, maintenance and removal from service of full body harnesses, connectors, lanyards, energy absorbers, anchorage connectors, fall arresters, vertical lifelines and self-retracting lanyards.

Provide Appropriate Training

Only well-informed individuals can make the right decisions about fall protection. That's why it's critical to ensure proper training for the people who supervise or use fall protection systems. Regular, ongoing training supports the other major elements of a fall protection program and increases the effectiveness of each step—from identifying and assessing fall hazards to using the controls that are provided to protect workers.

The goal of fall protection training is to impact behavior. Adult learners especially need to understand how the information they're being trained on effects their day-to-day work. Participants grasp training content best when it's customized to the workers, their unique environments and their responsibilities. Organizations may need to accommodate a variety of learning preferences, so it's important to use a variety of teaching methods (lecture, video, etc.), as well as practical application exercises to increase ownership, understanding, and retention of critical material.

Because different employees have different responsibilities related to fall protection, there are various levels of training to consider. The ANSI Z359.2 standard outlines the following levels of training, including required training content for each type of training:

- Awareness—anyone in an environment with fall hazards
- Authorized Person—users of fall protection equipment
- Competent Person—supervisors of workers at height

Well-planned and properly designed fall protection systems can only function if they are installed and used properly.

- Qualified Person—designers of fall protection systems
- Refresher Training—anyone whose work has changed or hasn't received training in more than two years

While the standard does not dictate an exact length for training courses, it does provide guidance on the subjects that should be covered to ensure personnel can safely fulfill the requirements of their roles. Some organizations, including the U.S. Army Corps of Engineers,[1] have prescribed a required length (24 hours) for training to ensure all subjects can be properly covered.

Focus On Certified Systems

Supervisors and users of fall protection equipment may know that their equipment meets the latest ANSI Z359 standards, but they can't typically confirm that the whole system meets the standards. Simply said, most fall protection systems lack documentation or are improvised. While that may have been accepted when 29 CFR 1926 Subpart M became effective in 1995, a lot has changed in 25 years. Documentation must show that the system is fit for service and that workers can use it safely.

There are five primary elements to consider when certifying a fall protection system. Each of the fundamentals listed below must be evaluated to ensure that all aspects of a given system are acceptable for use.

1. Suitability of system
2. Anchorages
3. Equipment
4. Procedures
5. Training

Well-planned and properly designed fall protection systems can only function if they are installed and used properly. Engaging trained engineering and safety professionals to certify the entire process—from initial planning through construction to final close-out—dramatically increase the reliability of installed fall protection systems.

No matter how old a fall protection system is, its sole purpose is to save a falling worker. That's why it's also critical to have active systems re-certified regularly. Changes in personnel and environments, which happen in every workplace, can render active systems ineffective and unsafe. As circumstances and environmental conditions change, organizations must confirm that the systems' applications and components are still viable for their intended purpose.

Conclusion

To be effective, fall protection programs must strike a balance between cost efficiency, compliance, safety and usability. In some cases, fall protection PPE is not the best answer, and in some cases it is. If fall protection equipment is the chosen method to protect employees, be sure to apply these best practices to protect workers and benefit from your investment.

Thomas Kramer, PE, CSP (LJB Inc.) is a safety consultant and structural engineer with 24 years of experience. He is a dually registered professional engineer and certified safety professional, who has become an internationally recognized expert in applying engineering and safety practices to reduce risk for workers at heights. He specializes in the assessment and design of fall protection systems, as well as fall protection program development. He is passionate about educating others on fall protection and serves as the Chair of the ANSI Z359 Committee and president of the International Society for Fall Protection. He has also given more than 200 technical sessions and workshops on the topic across the United States and in a dozen countries.

SOURCE:

[1] **www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_385-1-1.pdf**