

Fall Protection System Certification: Take No Chances

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Introduction

In many facets of life, certification is important. Most people feel more comfortable with a certified pre-owned car, rather than one sold from an unknown entity on the Internet. When shopping for meat, most consumers prefer items that are USDA-certified.

What is it about certification that makes people more comfortable? In theory, it is because those things have been reviewed, checked, and to some degree, endorsed, by people who have a great deal of related knowledge and experience—usually more than the consumer themselves.

For fall protection systems, certification can mean the difference between life and death for a worker at heights. No matter how old a fall protection system is, its sole purpose is to save a falling worker. Whether you've just installed new systems, or you're evaluating existing systems, you don't want to take any chances that they work properly. This paper explains the elements that must be in place to achieve a certified system.

ANSI Requirements

While ensuring proper condition and function of active fall protection systems is the right thing to do, the publication of the ANSI family of standards now prescribes it. Although ANSI standards are not laws, many organizations work toward the ANSI requirements as industry best practices. The information provided in ANSI standards is especially helpful, considering that system certification is not addressed by OSHA fall protection regulations.

So, what do you need for a certified fall protection system?

ANSI defines the term certified as “having documentation that the system meets the requirements of the standard.” So, not only does it need to meet the various criteria stipulated by the standard, but you also need documentation to prove that. Many times, organizations fall short on the documentation side. Even if the fall protection systems are suitable, the organization doesn't have the documentation to verify it.

Who wants to be the person to test a system that has no corroborating data? Do you want to taste-test your meat to be certain it's safe, or would you rather rely on a trusted party to vouch for it?

Primary Elements of Certification

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

1. **Suitability of system**

This item essentially answers the question: is this the right solution for the hazard(s) it is addressing? This evaluation may include technical aspects, as well as whether it is the optimal solution based on the Hierarchy of Control. Ideally, hazards should be controlled by the most effective, least defeatable option possible.

Although it may sound simple, ANSI Z359.6-2009 requires that the type of system (active fall arrest, fall restraint, etc.) be indicated to ensure that it is used in the proper way. Also, the standard requires a statement indicating that a Qualified Person must be consulted before making modifications to a system. These are basic, but critical, items to help ensure that systems are used within the limitations of their design.

2. **Anchorage**

When evaluating anchorages, the default question people ask is: are the anchorages strong enough? While it is critically important that anchorages are designed to support the appropriate loads, strength is not the only factor to consider regarding anchorages.

Anchorage must be properly specified, installed and used in order to function as intended by the design. Simply verifying their strength capacity will not ensure that anchorages are appropriate for a given system.

For example, anchorage location is a critical factor. An anchor that is improperly positioned could result in deadly swing fall, excess free fall, or impacting the lower level.

3. **Equipment**

Equipment is often the most visible and most tangible aspect of a fall protection system. All equipment components require a certain level of inspection and replacement as defined by the manufacturer. But, it's important to note that even if the individual components appear to be in proper order, they may still not be correct for the system.

In addition to the condition of individual components, some potential concerns with equipment are:

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

4. **Procedures**

To reduce risk and increase safety, all workers must understand how to use safety systems the way they were designed to be used. To achieve this, organizations must have detailed use and rescue procedures that can reasonably assure proper usage.

Procedures are valuable tools for training and re-training workers, to ultimately result in proper use of equipment. While initial training is important, procedures provide a ready reminder of proper equipment usage and steps for properly attaching to and detaching from systems.

In addition to general safety procedures, which can be written for equipment component selection and inspection, roof access, or safe ladder access, system-specific use and rescue procedures should accompany each active fall protection system.

5. Training

When certifying a system, it is important to note what training has been provided to individuals using the system. The use of fall-protection equipment is not intuitive, in contrast to a hard hat or safety glasses. Users must be provided with detailed training on the specific use of each fall protection system.

In addition to specific training for a given system, authorized users should also have general fall protection training. This level of training helps users better understand the basic aspects of fall protection, which will help them identify hazards and concerns with equipment or systems.

Certification Record

A primary purpose of certification is to provide detailed documentation for a fall protection system. A certification record provides a complete and accessible set of documents for a given system, indicating a Qualified Person's confidence that all the fundamental components are satisfied.

Although the ANSI Z359.6-2009 standard provides detail about the information required for certification, it does not give direction on how to organize the information. It is up to the Qualified Person to assemble the appropriate information in a user-friendly manner.

A certification record could be organized according to the five primary elements of a certified system, listed in the previous section. Another option is to organize a certification record according to the project phases, indicated below:

- Design
- Construction
- Operational
- Training
- Inspection

It is also important to note that a certification record should remain a living document—one that serves as a reference guide for all information about a fall protection system. During inspections and re-certifications, the certification record provides a single location to collect information. Having all the pertinent documentation in one place makes it easier to investigate issues related to design, construction, maintenance, operations or inspections. It should be expected that documents will be replaced and augmented with appropriate supplemental information throughout the life of the fall protection system.

Common Questions Answered

The following are some common questions about fall protection system certification, along with their corresponding answers.

1. *Who performs certification?*

According to the ANSI Z359.6-2009 standard, a Qualified Person must perform system certification. As defined in ANSI Z359.0, a Qualified Person is "a person with a recognized degree or professional certificate, and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, evaluating and specifying fall protection and rescue systems to the extent required by this standard."

Ideally, someone who is dually registered as a professional engineer and certified safety professional provides this service. This dual registration is helpful to ensure that both the structural and behavioral aspects of the system are addressed. Without both of these considerations, the result can be a system that is technically compliant, but functionally impractical to use.

2. *How often should it be done?*

Equipment components typically have semiannual or annual inspection requirements, which provide an opportunity to evaluate the condition of equipment components and systems. For these inspections, the manufacturer's guidelines should always be followed. The results of these inspections should be documented for use in future system certifications.

The full certification process is a more detailed process that is required prior to initial system use and then periodically according to the ANSI Z359.6-2009 standard. The recertification frequency is determined by the Qualified Person but should not be greater than five years. For systems that are subject to inclement weather or other harsh environmental conditions—or for environments, such as manufacturing facilities, where process changes are frequent—certification should be performed more frequently.

3. *What if I've missed a year? Or 10?*

If you've missed a required inspection or certification, the necessary documentation will then be missing from the system records. Missing documentation will result in more effort required during the certification process, not to mention the increased likelihood of system issues.

4. *Do I need a third party to perform the certification? (i.e., I've got a designer and an installer. Can one of those do the certification?) Is there a conflict of interest?*

Certification means that the entire system has been designed and installed in accordance with ANSI standards. What many organizations find is that they only have an installer and that no design was performed. In these cases, the system cannot be certified, since the required design documentation will not be available. The installer has responsibility for one aspect of the final system, but the designer (i.e., the Qualified Person) has the responsibility to ensure that all the various aspects are integrated.

Regarding the conflict of interest question, the certification is not intended as a way to validate the designer. Rather, it is a statement that the design (and the whole system) meets the requirements of ANSI. If there is any reason to question the Qualified Person who performed the design, a third party certifier may be a good idea. If this is a consideration, the third party should be brought in early in the process. If they are involved after installation has begun, it will be too late for them to provide true value to the project. It will likely be too late to rectify any concerns they note, without considerable cost, time and effort.

5. *If I'm using a proprietary PPE subsystem for which the manufacturer requires a "certified installer," does the installer need to do the certification?*

Because the installer has responsibility over just the installation aspect, using a subsystem that requires a manufacturer certified installer does not change who could be providing the system certification. Again, it is the Qualified Person who has the overall responsibility for the system certification. The “certified installer” is only responsible for proper installation of the subsystem.

6. *Do I need to load test?*

The primary use for load testing is in the documentation and recertification of existing fall protection anchorages and systems. If a load test is done incorrectly, there can be dramatic results. So, it is critically important to understand what are you load testing and why.

If there is a significant level of uncertainty with an existing system, due to visible observations or lack of documentation, load testing may be the only way to determine the suitability of an existing system. In that case, without load testing, the system cannot be considered truly certified.

To properly execute load testing, an organization can prepare a project-specific load testing manual and load testing plan. Due to the possibility of significant structural damage if done incorrectly, the manual and plan should be created in accordance with a Qualified Person who has significant experience with load testing.

The ANSI Z359 committee plans to address load testing in the next edition of the ANSI Z359.6 standard.

Recertification

Since changes in personnel and environments happen frequently, the ANSI Z359.6-2009 standard requires active fall protection systems to be recertified. In the standard, ANSI Z359.6-2009, Section 4.6.5 – Recertification of Active Fall Protection Systems, it states:

“Active fall protection systems shall be thoroughly reviewed by an engineer at a frequency to be determined by the original design or other similarly qualified engineer but not to exceed five years.”

The ANSI requirements are in place because changes in personnel and environments--which happen in every workplace—can render active fall protection systems ineffective and unsafe. Said another way, even if a system appears to be in good condition, its application and components may no longer be viable for their intended purpose.

For example, personnel were observed using a system designed for fall restraint, as a fall arrest system, because the organization's procedures and training were lacking. While the individual components of the system were in proper order, the recertification process uncovered this significant, and dangerous, misuse issue.

Conclusion

As a consumer of fall protection systems, you'd like to think that the systems you purchase are safe and effective. We'd all like to think that about the meat we buy and the cars we purchase as well. Just like these common examples, the fall protection certification process is a critical step toward making people that they are as safe as they think they are.

Whether it's a new system or an existing system, you don't want to take any chances that fall protection systems work properly. By following the guidelines provided in ANSI Z359.6-2009, you can provide systems that will serve the vital purpose of saving a falling worker.