

The New Fall Protection Code, ANSI/ASSE Z359.1

History & Overview of the Landmark 2016 Revision

By Tina Anglely

The revision of ANSI/ASSE Z359.1 recently received final ANSI administrative approval, with an effective date of Aug. 14, 2017. On the surface, this appears to be a fairly unremarkable statement. In reality, this revision is quite the opposite. Simply put, the 2016 revision of Z359.1 changes everything.

First, the standard formerly known as Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components is now named The Fall Protection Code. At its essence, this is a new standard with regard to technical content. It is not simply a revision of the requirements in previous editions. This article provides a historical context to help understand the standard and the changes that take effect with this pivotal revision.

Voluntary Consensus Standard

A voluntary consensus standard complements governmental regulations that specify mandatory requirements, in this case, for occupational fall prevention and fall arrest means. Compliance with the standard does not ensure compliance with governmental regulations and vice versa. However, it is intended that every employer whose operations fall within the scope and purpose of the standard will adopt the guidelines and requirements that it details.

Before Z359

Before 1992, the only protections that existed regarding fall protection were OSHA regulations, which many experts viewed as extremely weak. For example, the fall protection regulations at the time allowed the use of body belts and chest harnesses. In the event of a fall, a worker wearing such a device could possibly fall out of it. Despite the development and availability of more protective devices, no document standardized the specifications of those devices.

1992: Birth of a Standard

With the approval of Z359.1 in 1992, for the first time, a voluntary consensus standard provided guidance for the manufacture of fall protection equipment, and offered employers a way to gauge how well a device would protect its workers.

Also for the first time, the standard separated the notions of user positioning, restraint and fall arrest, and defined the distinction between active and passive fall protection. The requirements of fall arrest systems differ considerably from those involved in positioning and restraint. These concepts were born out of Z359 and its standards development committee.

Fall arrest systems remain in a passive state until activated by a fall, at which point the system must briefly control dynamic shock loads and deceleration distance, then suspend the user until rescued. In contrast, systems used for positioning and restraint primarily remain in an active state and handle relatively low static loads. Similarly, the rescue and evacuation applications are distinctly different from those involving positioning, restraint and arrest. The 1992 standard specifically addressed use of equipment for fall arrest.

2007: The Fall Protection Code Arrives

Following ANSI guidelines, the standard was reaffirmed in 1999. It was not until 2007 that Z359.1 was revised, the outcome of which was a new version that introduced the concept of managed fall protection programs. Fully defined in ANSI Z359.2, a managed fall protection program is a comprehensive written plan to protect those routinely exposed to fall hazards.

Another defining characteristic of the 2007 revision was the introduction of prevention through design concepts to ensure a proactive approach. The standard now provided guidance for design considerations for new buildings and facilities. The standard also incorporated basic fall safety principles such as hazard survey, hazard elimination and control, and education and training.

The most substantial change that occurred with the 2007 version was the addition of four new standards. Including Z359.1, these standards were approved May 31, 2007, and became effective Nov. 24, 2007:

- Z359.0, defining terms used throughout all Z359 standards;
- Z359.2, addressing managed fall protection programs;
- Z359.3, covering positioning and restraint equipment;
- Z359.4, dealing with rescue systems.

Although the new standards had been planned since the 1999 reaffirmation of the 1992 standard, 2007 marked the beginning of nearly a decade during which the Z359 committee produced its series of a dozen standards known collectively as the Fall Protection Code.

2016: Closing a Loophole

Since the last revision of Z359.1 in 2007, many new voluntary consensus standards have been developed within the Z359 series to cover various specific types of fall protection products and processes. During the intervening years, some manufacturers chose not to follow the equipment-specific standards, yet still claimed compliance with the most current version of Z359.1. At the time, those statements were true by virtue of the fact that Z359.1 did not specifically address the elements covered by the other 11 standards in the Z359 family.

The 2016 revision closes that potential loophole by referencing each of the Z359 standards. To be compliant with a standard, manufacturers must meet all of its provisions. With the publication of the 2016 revision to Z359.1, all of the requirements of the 2007 standard have been superseded. As a result, manufacturers claiming to comply with the most current Z359.1 standard must now meet the provisions of all of the existing Z359 family of standards, which are much more

Fall Protection in Construction

Originally, Z359 still did not cover fall protection in construction applications, historically the domain of the A10 family of standards. This would change in February 2015, when the Z359 committee voted that going forward, its standards would cover equipment used in construction and demolition operations, which had previously been excluded due to the existence of A10 standards. Managed fall protection programs for construction and demolition operations, on the other hand, were still under the purview of the A10 standards, and not addressed by the Z359 standards.

For more information on this change, visit <http://bit.ly/2dmROGk> or read the story published in *Professional Safety* (March 2015, p. 18).



stringent and protective than the elements of Z359.1-2007.

While this revision means a substantial change for fall protection equipment manufacturers, businesses with employees working at heights should also be aware of the changes that affect manufacturers so they may assess the protective quality of the fall protection equipment they purchase for employees to use.

“Businesses should understand the changes to Z359.1 so they can effectively gauge whether equipment truly meets the most current standards,” says Tim Fisher, ASSE’s director of standards and technical services. “Companies should be knowledgeable about the status of standards that affect them, and whether they are active and up to date.”

NSSN (www.nssn.org) is a resource to help employers inform themselves. It is a search engine administered by ANSI that provides users with standards-related information from standards bodies and international organizations. Searching any standard internationally by keyword, title or document number returns the status and date of each related standard.

The Future of Z359

As of this writing, the current Z359 contains 12 standards:

- Z359.0-2012, Definitions and Nomenclature Used for Fall Protection and Fall Arrest;
- Z359.1-2016, The Fall Protection Code;
- Z359.2-2007, Minimum Requirements for a Comprehensive Managed Fall Protection Program;
- Z359.3-2007, Safety Requirements for Positioning and Travel Restraint Systems;

- Z359.4-2013, Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components;

- Z359.6-2009, Specifications and Design Requirements for Active Fall Protection Systems;

- Z359.7-2011, Qualification and Verification Testing of Fall Protection Products;

- Z359.11-2014, Safety Requirements for Full Body Harnesses;

- Z359.12-2009, Connecting Components for Personal Fall Arrest Systems;

- Z359.13-2013, Personal Energy Absorbers and Energy Absorbing Lanyards;

- Z359.14-2014, Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems;

- Z359.15-2014, Safety Requirements for Single Anchor Lifelines and Fall Arresters for Personal Fall Arrest Systems.

With the revision to Z359.1-2016, Fall Protection Code, the above list of standards are known collectively as the Z359 Fall Protection Standards System.

Z359.1-2016, Fall Protection Code, will be free of charge as soon as it becomes available, anticipated by the end of the year.

Future Z359 standards activity includes:

- Z359.16, Safety Requirements for Climbing Ladder Fall Arrest Systems, new standard expected within 30 days of the time of this writing;

- revisions to Z359.0, Z359.2, Z359.3 and Z359.6 by the end of 2016;

- Z359.18, Safety Requirements for Anchorage Connectors for Active Fall Protection Systems, new standard expected during the first quarter of 2017;

- Z359.9, Personal Equipment for Protection Against Falls—Decending Devices, new standard in development;

- Z359.17, Safety Requirements for Horizontal Lifelines for Personal Fall Arrest Systems, new standard in development.

Z359 standards are constantly evolving and regularly revised in conformance with ANSI requirements. The Fall Protection Code will be kept up to date as new standards and revisions are developed and published. The code requires that products meet the current version of the applicable standard when purchased. Products in use when new standards or revisions to existing standards become effective can continue to be used until they are removed from service.

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ASSE is currently working on a research project to establish a potential certificate program in managed fall protection.