

THE HIGHEST PRIORITY: **FALL PROTECTION**

Understand the new ANSI standard for fall arrest and rescue systems.

BY ROB SENKO, TRISH LUEDTKE AND KIMBERLY LEWIS

The American National Standards Institute (ANSI) has served as coordinator of the voluntary standardization system for more than 90 years and provides an unbiased platform for the development of policies on standards issues. The institute serves as a regulator for standards development and conformity assessment programs and processes. ANSI does not actually develop standards. Instead, standards are developed by the Accredited Standards Committee, which functions under the procedures of ANSI with the American Society of Safety Engineers (ASSE) as secretariat.

Basic fall safety principles are covered under the Z359 Fall Protection Code to arm employers with the means to develop, implement and maintain fall protection programs. Recently updated, ANSI/ASSE Z359.14-2012 Self-Retracting Devices (SRDs) for Personal Fall Arrest and Rescue Systems, a standard encompassing the performance, design, qualification testing, markings, instructions, inspections, maintenance, storage and removal from service of SRDs, also includes standards for self-retracting lanyards (SRLs), as well as SRLs with integral rescue capability (SRL-R) or leading-edge capability (SRL-LE).

The Z359 standard establishes requirements for SRDs intended for use in personal fall arrest or rescue systems for authorized workers within the range of 130 to 310 pounds (59 to 141 kg) and applies to the manufacturers, distributors, purchasers and authorized individuals who use such equipment. This new standard addresses all types of SRDs, including the traditional-style SRL and SRLs with retrieval capability (commonly referred to as three-way SRL devices).

GENERAL REQUIREMENTS FOR SELF-RETRACTING DEVICES

The standard dictates that any integral rings intended to accept a snaphook or carabiner must be designed to



Workman 30-Foot Self-Retracting Lanyard from MSA

minimize the likelihood of rollout of a corresponding snap hook or carabiner. The locking or fall-stopping function must be automatic, and you should not be able to override the self-locking feature. The visual load impact indicator will now be required with SRDs. This indicator should be visible to the user at full extension of the line prior to use.



Most important for contractors, the new Z359 standard includes the requirements for more frequent and formal inspections by users.

It's important that consideration be given to size and location of the indicator. For example, if the indicator is on the housing and the unit is mounted overhead, the indicator should still be visible if activated. Retraction tension should be between 1.25 and 25 pounds at all points in the range of motion.

INTEGRAL RESCUE CAPABILITY

Rescue planning is a crucial component in any fall protection program. As such, specifications and qualification testing for post-fall arrest testing of self-retracting lanyards with integral rescue capability are covered in the new standard and include function testing, static strength and dynamic performance testing.

The SRL-R should be engaged in its rescue mode of operation at any time, should not be able to inadvertently switch to or from rescue mode, should be capable of raising or lowering the load to affect the rescue and should automatically stop and hold the load if the rescuer relinquishes control.

The standard also covers the line constituent of SRDs. Synthetic rope and webbing must be made of pure or non-recycled synthetic materials with strength, aging, abrasion and heat-resistance characteristics equivalent or superior to polyamides. When statically tested, they must have a minimum breaking strength of 4,500 pounds. Wire rope must be manufactured from stainless steel or galvanized steel strand having a minimum breaking strength of 3,400 pounds and a minimum nominal diameter of 0.1875 inches.

LEADING EDGE

SRDs intended for use in leading-edge applications are now required to meet criteria that evaluate the performance

of self-retracting devices with leading-edge capability. All SRL-LEs must include an integral energy absorber adjacent to the end of the line that connects to the body support. If the device housing is to be connected to the body support and can be used only in this manner, an energy absorber is not necessary.

Marking requirements for self-retracting lanyards with leading-edge capability are also specified and include minimum installation setback distance and clearance required when falling over the edge. Anchorage type and location, worker height, arrest distance and the clearance safety factor should be considered when determining fall clearance.

The Complete Structure for
Safety, First Aid, CPR, &
AED Training Solutions

LEARN MORE AT BOOTH #1120

**SUMMIT
TRAINING
SOURCE**

**MEDIC
First Aid**

hsi Health & Safety
Institute®
hsi.com

ASHI, MEDIC First Aid®, 24-7 EMS®, 24-7 Fire, EMP
Canada, and Summit Training Source are members
of the HSI family of brands.

check 120 on card or go to cbofreeinfo.com

TYPES OF USE	APPLICATION EXAMPLES	CONDITIONS OF USE	INSPECTION FREQUENCY BY COMPETENT PERSON	FACTORY-AUTHORIZED INSPECTION
Infrequent to light	Rescue and confined space, factory maintenance	Good storage conditions, indoor or infrequent outdoor use, room temperature, clean environment	Annually	At least every 2 – 5 years, but no longer than intervals required by the manufacturer
Moderate to heavy	Transportation, residential construction, utilities warehouse	Fair storage conditions, indoor and extended outdoor use, all temperatures, clean or dusty environments	Semi-annually to annually	At least every 1 – 2 years, but no longer than intervals required by the manufacturer
Severe to continuous	Commercial construction, oil and gas mining	Harsh storage conditions, prolonged or continuous outdoor use, all temperatures, dirty environment	Quarterly to semi-annually	At least annually, but no longer than intervals required by the manufacturer

USER INSPECTION, MAINTENANCE AND STORAGE

Most importantly for contractors, the new standard includes the requirements for more frequent and formal inspections by users, manufacturer-authorized distributors, repair centers and others. Detailed SRD inspection requirements will be identified in the user instruction manuals provided with each product. At a minimum, this equipment must comply with the manufacturer’s instructions regarding the inspection, maintenance, storage and removal from service.

On the jobsite, equipment must be inspected by authorized personnel other than the user before each use. Additionally, equipment should undergo periodic factory-authorized inspections. Inspection criteria should be kept current in relation to changing patterns or conditions of use.

Documentation of equipment inspections must be maintained by the program administrator. This documentation should include, at a minimum, the identity of the equipment, inspection date, name of the person conducting the inspection and the results of the inspection. When an inspection reveals defects, damage, inadequate maintenance, activated stress indicators or activated warning devices, the equipment must be permanently removed from service or undergo corrective maintenance in accordance with the manufacturer’s recommendations. Finally, if the equipment has arrested a fall, it must be removed from service, tagged as “UNUSABLE” and either disposed of or serviced in accordance with the manufacturer’s recommendation.

Aside from equipment that has arrested a fall, any equipment that requires repairs must also be tagged as “UNUSABLE” and removed from storage until maintenance is completed in accordance with the manufacturer’s instructions.

Proper storage of equipment includes ensuring protection from damage due to environmental factors such as heat, light, excessive moisture, oil, chemicals, vapors or any other harmful component.

While these are the main requirements to be aware of when using fall arrest systems, the points here are not comprehensive. The full copy of the ANSI/ASSE Z359.14-2012 standard can be purchased from the ANSI standards store at www.webstore.ansi.org. **CBO**

Rob Senko has served MSA in several pivotal roles: fall protection product specialist, industrial sales manager; fall protection customer development manager and, at present, product line manager for fall protection. Senko received his bachelor’s degree from Duquesne University and his master’s degree from Montreat College.

Trish Luedtke and Kimberly Lewis are marketing copywriters with MSA.

For more information, visit www.msasafety.com.

CONSTRUCTION BUSINESS OWNER

THE BUSINESS MANAGEMENT MAGAZINE FOR CONTRACTORS

Don't Miss the Next Issue!

RENEW

Your

SUBSCRIPTION



Free. Simple. Online.

Use your smartphone to scan the QR code to subscribe online.
www.constructionbusinessowner.com/subscribe

