

# OSHA standards are the best

## Knowledge of the new ANSI fall protection standards is a must

By JOHN CORRIVEAU

**S**triving to maintain a “best in class” fall protection program can be an ongoing battle. Factors such as budget, employees or management can stall the process. Add in gravity, and you have the potential for a major loss.

I have worked with many companies, from smaller family-owned to Fortune 500, and have had the privilege of assisting with many best-in-class programs over the past 35+ years.

We recently responded to a call from a company

where an employee had a near-fatal fall. The wrong height had been chosen as an anchorage point and the employee fell into a chemical vat. This resulted in an insurance claim that is still active and currently exceeds \$4 million in damages. A review of the company’s fall protection program revealed many deficiencies.

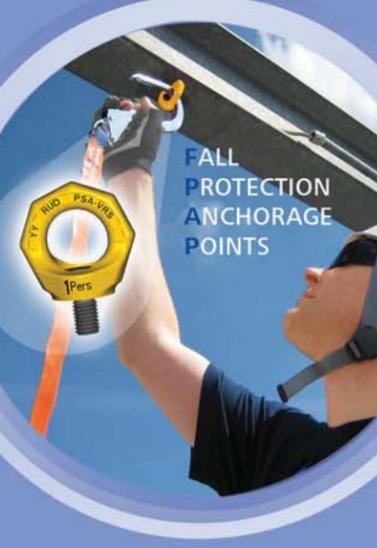
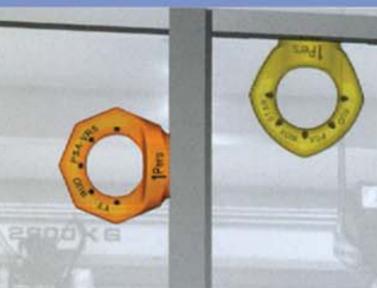
It is critical to devote both time and money to understanding and implementing the new and proposed ANSI standards for fall protection. Falls are the number-one cause of all workers’ comp claims and liability losses in the workplace. The average cost of a fall from between 15-30 feet is \$750,000- \$1 million dollars. A complete fall protection program, based on the current standards, and supported by the proper equipment, systems and training, will protect businesses and their employees from devastating psychological, physical and financial losses. This translates into an immediate return on investment.

The latest 2012-13 ANSI Z359 Fall Protection

Standards for General Industry and the 2012 ANSI A10.32 guidelines for Fall Protection in the Construction Industry are great tools to assist companies with updating their fall protection programs. Many choose to follow the OSHA standards as their baseline. But more companies are finding the value in adopting and enforcing the newer standards. The new standards have spawned better equipment as well.

### Best practices & equipment

The new Z359.14 Self-Retracting Lifeline (SRL) standard has now created three classes of SRLs: One that can arrest a fall in 24 inches, one in 42 inches, and one for a leading-edge application on rooftops. All equipment for General Industry and Construction must have snap hooks and carabiners with a rated gate of 3600 lbs. stamped on the hook gate in order to comply with the new standards. Previously, only the Z359 for General Industry had this requirement.

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Basic test requirements:  
DIN EN 795:1996/A1:2001  
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Proof force: 22,2 kN/Person



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### Facts about Roll-out and Burst-out

1. Roll-out can occur when someone is using a non-locking snaphook.
2. Roll-out occurs when someone is using a non-locking carabiner or an auto-locking carabiner. Triple locking or double action carabiners greatly reduce roll-out potential.
3. The standards address the problem of roll-out. If someone has a locking snaphook, or carabiner, they may be meeting the standards.
4. Burst-out is not addressed by the standards but is still a concern.
5. Burst-out is a concern because the snaphook gates are only tested to 220 lbs. (350 side load) (ANSI Z359.1).
6. The forces generated during a fall are much greater (at least 900 lbs.), and may cause failure of the gate if the load is applied to the gate.
7. By choosing the correct geometry, we can

reduce the possibility that any load will be applied to the gate.

8. By using a carabiner with a capture pin we can reduce the possibility that loading will be applied to the gate.

9. By using a snaphook or carabiner with a compatible radius to its attachment point we can reduce improper loading.

10. By using a carabiner with a properly sized opening, when using with rope or cable thimbles, we can reduce roll-out/burst-out possibilities.

11. Burst-out and Roll-out have been greatly reduced by the new ANSI Z359.1 (2007).

However at-foot-level anchorages still leave snaphooks and carabiners at risk when equipment is misused. A competent person should review compatibility of the snaphooks and carabiners as stated in the current OSHA and ANSI standards.



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# baseline, but...

Even with new, stronger gates, it is imperative for management to properly train their employees on the correct orientation of connecting hardware. We tell our customers that if your anchorage point drops to the back D-Ring height of your harness, or lower, then you need to change your lanyard to a 12-foot free fall style. And if you are using a carabiner system at foot level, then you need to make sure you are using a triple-locking carabiner to avoid roll-out. (See sidebar: "Facts about Roll-out and Burst-out")

Many best-in-class fall protection programs do not allow for any at-foot-level anchorage points because it is understood that specialized equipment must be purchased for this type of exposure. The farther an employee is allowed to fall equals the higher possibility and level of injury. And the rescue may take longer.

The use of an overhead anchorage point coupled with a Class A SRL (maximum 24-inch extension) could still allow for a self-rescue. Many fall protection programs now include a "no lanyard" policy due to the performance of these new SRLs. In an aerial lift application, this reduces the possibility of an employee being catapulted out of the boom-style lift. We experienced this first hand when one of our employees drove a lift truck into a mud-covered pothole. The SRL locked up within inches and kept our employee firmly in the lift. The indicator on the SRL did not even activate, so we know that the forces to his body were under the 500 lbs. required to tear the indicator on the SRL. Small changes in equipment can have a large impact on your worker's safety.

Best-in-class roofer programs no longer allow the use of a safety monitor and require 100-percent tie-off when working outside the warning lines. The new Z359.15 Standard for Vertical Systems and the new Z359.17 Standard for Horizontal Lifeline Systems will require that all equipment attached to the same systems must come from the same manufacturer to insure the equipment is properly tested for compatibility. Making sure your employees and subcontractors use only one brand of equipment, which has been engineered and sold as a compatible set, will shift potential liability back to the manufacturer and offer additional protection to the employer.

Most best-in-class programs require 20 hours of training certification to be considered a Competent Person and 40 hours for Qualified Person status. Post-fall rescue is practiced frequently in all areas where fall protection systems are active. Two workers are now required to work together on roofs, and in plants, and one of them is required to let security or management know when a worker is at heights, and the specific location, so that a timely rescue is possible. If there is a fall event, the employee(s) involved must go to the hospital for a check-up, and again six months later for a follow-up.

## Be the best

The next standards soon to hit the streets are

Z359.11 for harnesses, .18 for Anchorage Connectors, and .15 for Vertical Lifelines. Everyone in the industry should diligently read the current and future OSHA and ANSI standards. There are over 300 letters of interpretation from OSHA regarding fall protection inquiries, making research and understanding critical to supporting a best-in-class program.

Adopting the new ANSI standards will help put any company on the fast track to reducing employee injury and financial loss. Strive to make your fall protection program *Best In Class*. **ISHN**

**John Corriveau** is a fall protection & confined space specialist who began working with his father, mother and brothers at Wardco Safety in 1978. John has over 35 years' experience working with safety equipment and engineered systems. He has been providing all levels of fall protection training since 1993 both in the U.S. and abroad. John is an active member of the Z359 Committee and has spent the last couple of years working on the updated standards for fall protection. You can reach John at (262) 790-1155, john@lighthousesafety.com; visit us @ www.lighthousesafety.com.

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