



Workplace Safety

How Often Do You Need to Replace Safety Harnesses?

Gillian Scott | Aug 17, 2018

What You Need to Know

OSHA regulations require employers to protect workers from falls, either by using barriers such as guardrails and nets or by using personal protective equipment such as harnesses.

Regular inspections ensure that all the components of personal fall prevention systems are in good working order.

Harnesses that show wear, discoloration, are missing labels or have damaged impact indicators should be removed from service.

Correctly storing and cleaning equipment can help prevent premature wear.

Personal protective equipment made to prevent employee falls can deteriorate over time. Knowing how to properly care for fall prevention gear—including safety harnesses—and recognizing the signs it's time to replace it are key to employee safety.

Workplace Falls Are a Top 10 OSHA Hazard

Fall protection topped the Occupational Safety and Health Administration's *"Top 10" list* of violations in 2017. The most common citations were for violations of the construction standard (29 *CFR 1926.501* Fall Protection). However, fall prevention is also covered under a variety of other *OSHA standards*. All the standards require employers to protect employees from falling from overhead platforms, elevated surfaces or into holes in the floors or walls.

For general industry, standards require that employers provide fall protection systems when a worker is on a surface with an unprotected side or edge that is 4 or more feet above the level below. For the construction industry, the surface can be 6 or more feet above the level below. Fall protection can include guardrails, nets or personal *fall protection systems* that use a *harness*, such as fall arrest, positioning or travel restraint systems.

Inspections Are Key to Fall Protection Safety and Safety Harness Systems

Harness systems are typically composed of a secure point to tie off, a full-body harness and a lifeline that connects the *harness to the anchor*.

Standard 29 CFR 1910.140, Personal Fall Protection Systems, specifically covers the use of personal protective equipment (PPE) for general industry, describing the performance, care and use criteria for all personal fall protection systems.

The first step in knowing when to replace fall protection equipment is regularly inspecting it and removing pieces from service if they're found to be defective.

"All employees are actually required to inspect a harness every time they put it on, and OSHA requires that they are trained in what to look for," **says Brandon J. Hody**, a safety and occupational health professional at Concurrent Technologies Corp. Hody suggests using a checklist that notes what components to inspect, what to look for and when a harness should be removed from use.

Did you know that fall protection training is a Top 10 OSHA violation? Learn the fundamentals in: "5 Must-Know Tips for Fall Protection Training."

Should Your Tools Be Tethered, Too?

Tethering your workers with safety harnesses can help prevent fall accidents. But falling tools are a real hazard, too.

Bureau of Labor Statistics numbers for 2016 show that there were 295 fatalities caused by workers being struck by hand-held, falling, flying, discharged, swinging or slipping equipment. **And according to OSHA**, approximately 26 percent of construction deaths and 10 percent of all workplace fatalities are caused by “struck by” accidents.

Mark Caldwell, director of fall protection for tools at Capital Safety, **writing for EHS Today**, says small tools can cause a lot of damage. “An eight-pound wrench dropped 200 feet would hit with a force of 2,833 pounds per square inch—the equivalent of a small car hitting a one-square-inch area,” Caldwell writes.

According to Caldwell, OSHA requires that when work is being done in an environment where a person could be hit by a falling object, tools and materials must be secured to prevent them from falling on people below. The OSHA regulations require the use of tethers, barricade hazard areas, posted warning signs, toe boards, screens on guardrails or scaffolds and debris nets, catch platforms or canopies.

He notes OSHA rarely cites companies for dropped tools and does not currently require tools to be tied off. However, Caldwell says, that could change within the next few years.

“Too frequently, we rely on debris nets, toe boards and personal protective equipment (PPE) to catch the falling objects or limit the damage they do,” he says. “But what we really need to do is stop things from falling in the same way we have worked diligently towards preventing people from falling.”

OSHA says those inspecting equipment should look for mildew, wear, damage and other deterioration. Hody suggests checking for:

- Frays or rips on webbing or straps
- Corrosion, deformation, pits or burrs, cracking, or rusting of metal parts
- Frayed or broken stitching
- Discoloration of pads

Hody says a harness must also be removed from service immediately if:

- Labels are missing or illegible
- An impact indicator (if the harness has one) is ripped or stretched

Honeywell’s detailed **Product Inspection Guide** for its Miller Fall Protection division provides detailed checklists for inspecting various harness components.

“One important thing to note is that no matter how new or pristine-looking a piece of equipment is, if it has experienced a fall, it must be taken out of service for repair or replacement. Full-body harnesses

and energy-absorbing lanyards exposed to a fall arrest immediately should be removed from service and replaced," **says Trevor Taylor**, a fall protection specialist with 3M, in an *EHS Today* article.

Store Safety Harnesses in a Cool, Dry Place

Eric Miller, a group product manager for Werner Co., says storage is important, too.

"The user should ensure it is properly stored by keeping it free of moisture, protected from impact and away from extreme temperatures. It is recommended that harnesses be stored either hanging, flat or neatly folded to prevent unnecessary stress or wear," he told *Safety and Health magazine*.

Honeywell's inspection guide also recommends that harnesses and other fall protection components be stored away from ultraviolet light, sunlight or corrosive elements such as batteries, and says that harnesses should never be stored on a concrete or dirt floor.

"Full-body harnesses and energy-absorbing lanyards exposed to a fall arrest immediately should be removed from service and replaced."

Trevor Taylor

Account Executive, Fall Protection Specialist, 3M

Keep Safety Harness Systems Clean

Regular cleaning also keeps harnesses in good working order and can prolong their usefulness.

"Any dirt, grease or building material residue on the harness should be wiped away, and harnesses never should be dropped directly on the ground or on dirt. Dirt particles can work their way into the harness straps and potentially compromise their strength over time," Miller says. "Should a fall protection harness get dirty, the wearer will need to clean it immediately according to the manufacturer's instructions. If those instructions are not available, most harnesses can be cleaned with a damp sponge and warm, soapy water. After washing with soap, a typical harness should be rinsed thoroughly and hung to dry, although preferably not in direct sunlight."

Taylor says the overall service life of fall protection equipment should be determined through inspections and by reviewing the manufacturer's instructions.

"Additionally, an annual, documented inspection should be performed by a trained, competent employee. The equipment should pass the criteria set forth by the manufacturer and user instruction manual provided with the equipment at time of shipment," Taylor says.

Does your facility regularly inspect personal fall prevention equipment? Share your experience.