Workplace Safety

Preventing Workplace Injury With Tethered Tool Lanyards

Gillian Scott | Feb 07, 2019

What You Need to Know

OSHA already requires that employees be protected from falling objects, but it doesn't specifically mention tool tethers in any of the general industry standards.
A new equipment standard adopted by ANSI in 2018 sets design, performance and testing requirements for tool tethering components.
Traditional tools like hammers and screwdrivers are not the only objects at risk of being dropped.
The new ANSI standard may help nudge OSHA toward mandating the use of tool tethers.

Slips, trips and falls are a major source of workplace injuries. But falling equipment—from hammers and screwdrivers to cellphones and tablets—is also a hazard on worksites. While hard hats, canopies and other devices can protect workers from objects falling from above, tethers can prevent the objects from falling in the first place.

Bureau of Labor Statistics numbers for 2017 show that there were 237 fatalities caused by workers being struck by falling objects or equipment. In addition, there were 46,000 reported nonfatal injuries. According to the Occupational Safety and Health Administration (OSHA), approximately 8 percent of construction deaths are caused by "struck by" accidents. But dropped objects occur in every industry where employees work at height, including telecommunications, oil and gas, and general industry.

OSHA Requirements for Falling Objects Hazards

Though OSHA doesn't specifically mention tethers in any of its general industry standards, it does require employers to protect workers from dropped objects in several standards, as well as through the general duty clause.

For general industry, OSHA specifically addresses dropped objects in ***CFR 1910.28***, the fall protection and falling object protection subpart to the Walking-Working Surfaces standard. The standard states that when employees are at risk of being struck by falling objects, employers must make sure they wear head protection, as well as use toe boards, screens, guardrail systems, canopy structures or barricades to keep objects from falling to a lower level.

Mark Caldwell, director of fall protection for tools at Capital Safety, says the focus should be on preventing things from falling, rather than catching objects or limiting damage when they do fall.

"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," Caldwell writes in an ***EHS Today*** article. "But what we really need to do is stop things from falling in the same way we have worked diligently toward preventing people from falling."

ANSI Acts on Standards for Falling Objects Hazards

Nate Bohmbach, a product director at Ergodyne, chaired the International Safety Equipment Association's (ISEA) Dropped Object Prevention Group, which wrote a new standard on tool tethering that was adopted by ANSI (American National Standards Institute) in July 2018. Titled "ANSI/ISEA 121-2018, American National Standard for Dropped Object Prevention Solutions," the standard establishes "minimum design, performance and labeling requirements for solutions and testing" that help prevent dropped objects, according to an ***ISEA article*** by Lydia Baugh.

Bohmbach says some workers in manufacturing and other industries are already aware of the benefits of tethered tool lanyards and have been doing their best to tether their tools, sometimes using duct tape and rope. The standard lays out better, safer solutions.

The new ANSI standard includes four categories of tether equipment: anchor attachments, tool attachments, tool tethers and containers (items like buckets and pouches).

"The first two categories—anchor and tool attachments—offer a whole ecosystem of solutions that I think will really open people's eyes," Bohmbach says. "These solutions are retrofit connecting points that are applied onto tools or anchors."

This could mean a small wrap for a tape measure, or a "tail" that gets attached to a hand tool, he explains. "They cannot affect the integrity of the tool or the anchor itself. You can't modify the tool by drilling into it or something like that. I think it's eye-opening because I don't know that a lot of people know that these things exist."

The ISEA article notes that if components of a tethering system meet the ANSI standard, they will work even with other components from a different manufacturer.

Looking for new ways to make your workshop safer? Check out this workplace injury cost calculator and how you can prevent them.

Tips for Tethering Tools

The new ANSI standard doesn't directly address how to use tethers. However, Nate Bohmbach, a product director at Ergodyne, who helped develop the standard, says an appendix offers some guidelines. These include how much weight should be tied off to the body versus to a structure, how to inspect equipment and things to watch out for when tethering tools.

In ***an article in EHS Today***, Mark Caldwell, director of fall protection for tools at Capital Safety, makes several recommendations to those using tethers. They include:

- Making sure lanyards, attachment points and wristbands don't interfere with the use of the tool.
- Using products like D-rings, self-vulcanizing tape, tool cinch attachments and more, to work with the tool's design without affecting its functionality or having to modify it.
- Using a fixed structure or anchor point for tools over 5 pounds.
- Paying attention to load ratings for various pieces of the tether system, and using the load rating for the weakest component.
- When possible, using tethers from the brand of the tool.

For more specific information on best practices for using tethers, Bohmbach suggests companies turn to safety equipment manufacturers themselves or to industry-specific organizations.

The International Safety Equipment Association (ISEA) also offers a variety of resources on a ***webpage*** dedicated to preventing dropped objects.

Falling Object Hazard: Cellphones, Damaged Equipment

Bohmbach notes that traditional tools like hammers and screwdrivers aren't the only falling object hazards that can cause injuries.

"Cellphones are probably one of the more commonly inquired about tools," he says. Other objects at risk of being dropped could include items like aerosol cans and walkie-talkies.

And the risks are not restricted to employee injuries. Companies also need to worry about damaged equipment—either objects that are damaged when they are dropped or the items that are struck by the dropped object.

What's Next in Tool Tethering

Bohmbach emphasizes that ANSI standards are not regulations.

"ANSI standards are voluntary consensus standards that are guidelines for how equipment should be made and how they should be tested and perform," he says, adding that the standards create a consistent set of guidelines for equipment that is to be used

“Then it’s up to either other regulation or company policies or general best practice to tell you when you have to tether and what you have to tether and then what the best equipment is to use to tether those tools and other things.”

Bohmbach says organizations like ISEA and ANSI are typically more “nimble” than regulators like OSHA. But he and others believe OSHA will weigh in on tool tethering—with either a standard or a letter of interpretation—in the not too distant future.

“Now that there’s a formal standard stating something about tethering, that essentially sets a precedence that it’s being used and it is a better practice,” he says.

“Within the next five to 10 years, OSHA likely will mandate that all tools must be tied off,” Caldwell says. “In the meantime, it’s up to companies and workers to do the right thing.”

Does your workplace have a falling objects hazard prevention plan?

