Using Tethering Tools to Reduce Workplace Injuries

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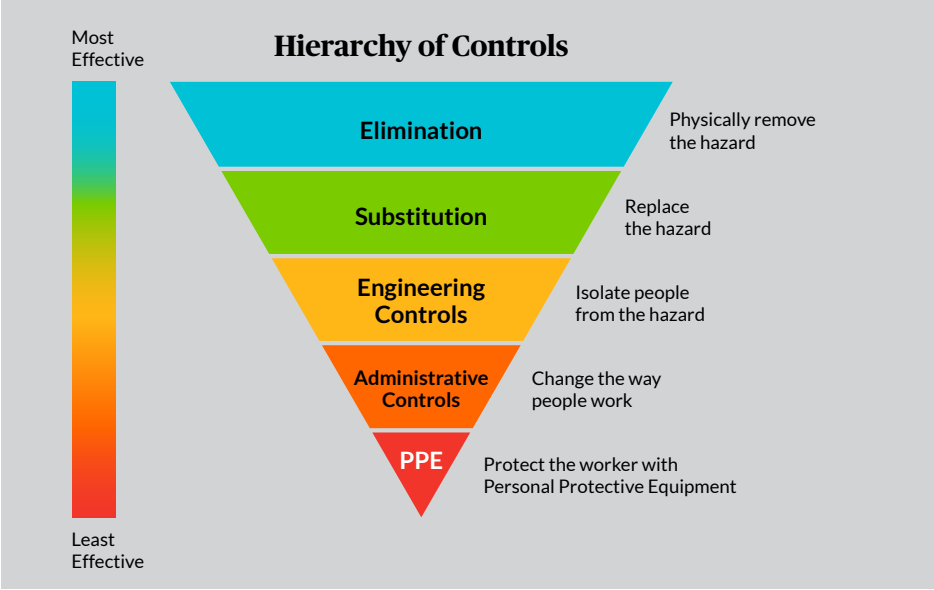
Although tool tethering is not specifically enforced by the Occupational Safety and Health Administration (OSHA), construction companies and safety managers still have an obligation to protect their workers from falling object hazards. By implementing procedures and policies related to tool tethering on a construction site, falling object incidents can be reduced or prevented.

Incident prevention is the goal of safety. Along with a thorough risk analysis and management commitment, tethering tools can help construction companies achieve that goal.

When most people involved with workplace safety think about preventing injuries from falling objects on construction sites, they tend to think about toe boards, hard hats, canopies, and barricades. After all, these are the measures employers are required to implement as per OSHA's Construction Industry Standard, 1926.501(c) "Protection from falling objects." However, while these measures do help limit struck-by incidents, additional best practices may help prevent the object from falling in the first place.

Consider this scenario. A worker accidentally drops his tool 10 feet below onto another worker who is wearing a hard hat. The hard hat offers some protection, but the fact of the matter is that the tool still ends up striking the worker below. Now let's reimagine this scenario, but this time, the employee working 10 feet above is using a tool tethering system. The worker accidentally drops his tool, but this time, the tool is prevented from falling and striking an employee working below because it is tethered. Incident prevention is the goal of safety. Along with a thorough risk analysis and management commitment, tethering tools can help construction companies achieve that goal.

Safety programs should consider the hierarchy of controls (see diagram below), in which practices like tool tethering could be considered an engineering control. Engineering controls are significantly better than simply providing employees with personal protective equipment, such as a hard hat. Personal protective equipment is at the bottom of the hierarchy of controls. Although hard hats can reduce the impact of being struck by a falling object, it does not actually prevent the object from falling in the first place. An employee is still at risk of an object striking them. With tool tethers, objects are prevented from falling. Even other protections such as canopies or restricted areas below an overhead operation do not prevent an object from falling.



Source: www.cdc.gov/niosh/topics/hierarchy/default.html

Current Status of Tool Tethering in the Construction Industry

Currently tool tethering is not specifically enforced by OSHA. Although there are standards related to falling object protection [1926.501(c)], [1926.451(h)], and 1926.759, there is no specific standard related to tool tethering systems.

There is, however, an ANSI Standard which was published recently in regard to tool tethering and limiting falling object incidents. This standard is ANSI/ISEA 121-2018. In the future OSHA may adopt some of these standards and update their falling object protection standards to combat the high number of struck-by incidents on construction sites.

What are the Benefits of Tool Tethering?

Struck-by incidents are typically the most common injuries on construction sites. Tethering tools would limit struck-by hazards, which are part of OSHA's "Fatal Four" or "Focus Four."

Although not directly enforced by OSHA, tool tethers would help contractors comply with OSHA's falling object protection standards. It would also reduce injuries, provide a safer work environment, reduce employee turnover, reduce Worker's Compensation claims, reduce a company's EMR, reduce lost time, reduce direct & indirect costs of an injury, and improve safety culture.

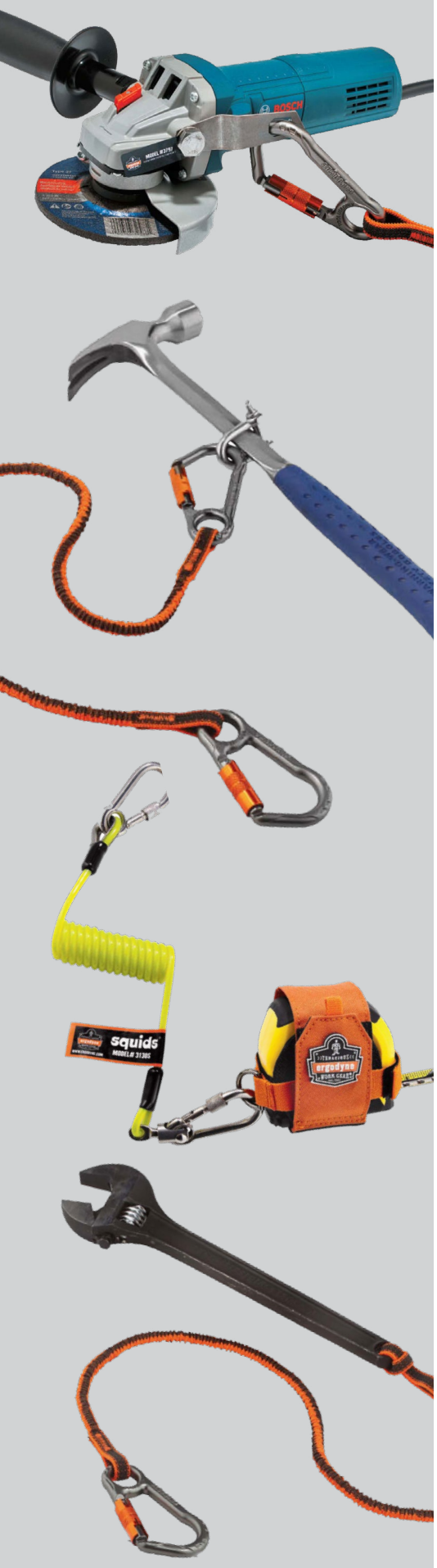
What do the Statistics Tell Us?

Some important statistics to consider: In 2019, the United States Bureau of Labor Statistics (BLS) compiled data on the number of non-fatal occupational injuries and illnesses involving days away from work or exposure leading to injury or illness. This was categorized by industry and used data from the private industry. Key data points for the construction industry are summarized below:

Struck by falling object or equipment injuries (other than powered vehicle), in the Construction Industry in 2019

Event or Exposure	Number of non-fatal occupational injuries and illnesses involving days away from work
Struck by falling object or equipment, unspecified	**470**
Struck by object or equipment dropped by injured worker	**1,570**
Struck by object or equipment dropped by other person	**360**
Struck by object falling from vehicle or machinery – other than vehicle part	**650**
Struck by falling object or equipment, n.e.c.*	**2,840**
Grand Total	**5,890**

* n.e.c. – not elsewhere classified



In 2019, in the construction industry, there were 15,830 non-fatal struck by object or equipment incidents. This averages out to approximately 43 struck by object or equipment incidents per day, in the construction industry alone! In 2019, in the construction industry, there were 5,890 non-fatal struck by falling object or equipment (other than powered vehicle) incidents. This accounts for 11% of all such incidents, and within the construction industry averages out to approximately 16 struck by falling object or equipment (other than powered vehicle) incidents per day. This specific data does not take into account fatal incidents that were a result of a struck-by incident, so the total struck-by incident numbers are actually higher.

Clearly struck-by incidents are a significant exposure for the construction industry. Companies should begin taking notice and become proactive in their goals to protect their employees. Investing in falling object protection is an investment in the safety of your employees. Preventing these incidents from happening can improve a company's bottom line and lead to a safer work environment. Safer work environments can boost employee morale and productivity by reducing interruptions in operations and lost time from work due to injuries.

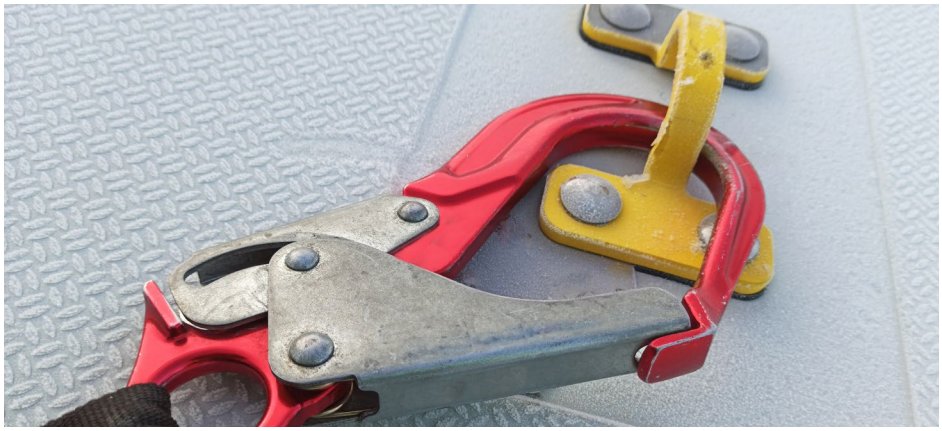
What is ANSI/ISEA 121-2018?

ANSI/ISEA 121-2018 encompasses the design, testing, performance, and labeling requirements for anchor attachments, tool attachments, tool tethers, and containers used to transport tools. It covers four different types of falling object prevention equipment: anchor attachments, tool attachments, tool tethers, and containers used to transport tools at heights. Anchor attachments are points of attachment that have been set up on a fixed structure or else installed on the worker using the tool. These anchor attachments allow the worker to anchor his or her tools onto the point of attachment. Lighter tools can be secured onto the workers themselves, for example on their belts or secured to a wristband. However, heavier tools should not be attached to a worker.

The standard recommends that heavier tools be attached to a fixed point, such as a column or a beam. Tool attachments are points of attachment that have been fitted onto a tool or piece of equipment and allow it to be tethered. Companies should be aware that, unfortunately, many tools are not manufactured with fixed tether points. A solution to this problem is having tools retrofitted with points of attachment. Tether points for tools are available on the market and have been designed to not cause damage to tools and to not void the manufacturer's warranty.

Tool tethers are lanyards that can connect tools to a designated anchor point. Some things to consider in choosing a lanyard include length, weight bearing capacity, means of attachment to the tool, means of attachment to the worker, and the type of work environment your employees can be expected to be in. For example, an electrical contractor should select lanyards that are made of non-conductive material. Lanyards are available in multiple designs, such as straight, coiled, bungee, or retractable. They are also available in a myriad array of materials, such as elastic, nylon, non-conductive, or wire. Companies should have a diverse supply of lanyards on their job sites and train their employees on the different lanyards accessible to them, so they know which type of lanyard to select for their specific work task.

Lastly, tools and equipment can be transported in containers to work areas that are separated in height. These containers can include buckets and bags. It is important to note that this standard does not stipulate what specific tools need to be tethered, when tools must be tethered, or how to properly tether a tool.



It is the responsibility of the employer to read and comprehend the manufacturer's specifications and guidelines on equipment to ensure that they are being used safely. The employer must then properly train their employees on how to use tool tethers, how to properly attach tools, and how to inspect their falling object prevention equipment. Tools and equipment that meet ANSI/ISEA 121-2018 adhere to the stringent criteria in the standard. Companies can feel confident knowing that their tools have undergone testing and are designed properly. When choosing equipment such as tool tethers, anchor attachments, tool attachments, and containers for falling object protection, employers should choose equipment that meets ANSI / ISEA 121-2018.

A tool tethering program should also be supported by training on how and when to use tethers and communications that reinforce the importance of tethers in preventing injuries. It is imperative that a company establishes a culture of safety that recognizes the hazards of falling objects and takes pertinent measures to mitigate those hazards.

Conclusion

Construction companies and safety managers should establish and implement a tool tethering program on all of their construction sites. Although there are OSHA standards related to falling object protection, OSHA does not specifically mention tool tethering. We must remember that OSHA standards are the bare minimum; companies should look to be more stringent on certain standards to keep their employees safer. Educating the workforce on tool tethers is imperative as it can reduce the likelihood of struck-by accidents. Companies that embrace being proactive and go above and beyond regulations are the ones that succeed in reducing the risk of accidents.

Contact Us

To learn more about how Chubb Global Risk Advisor's Construction Practice experts can help make your workplace safer, contact us today.

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