Personal Protective Equipment

What Are the Best Lockout/Tagout Devices for Safety?

Gillian Scott | Nov 15, 2018

What You Need to Know

Lockout and tagout procedures are covered under OSHA's standard for the control of hazardous energy.
Many companies either don't have a lockout/tagout program or have one that is ineffective.
Which device your organization chooses for lockout/tagout will depend on the type of machinery that your workers must isolate from an energy source and the number of workers who use the metalworking equipment.
Lockout kits and stations can help employees more easily follow lockout/tagout safety procedures.

Over 120 fatalities and 50,000 injuries a year could be prevented with the proper use of lockout/tagout procedures.

Regulations for a lockout/tagout process from the Occupational Safety and Health Administration describe detailed procedures facilities should have in place for controlling hazardous energy, as well as when and how the procedures should be implemented. But what about the lockout/tagout devices themselves?

A variety of devices are available for lockout and tagout. Which devices you choose will depend on the type of machinery you're isolating from energy sources—and the number of employees who use the machinery. Beyond the devices themselves, how you organize them and make them available to workers will also affect your facility's safety.

The OSHA Lockout/Tagout Standard

OSHA requirements for the control of hazardous energy (***CFR 1910.147***) generally demand that employers put procedures in place to ensure machines are isolated from the energy sources that drive them when they are being serviced or maintained and any unexpected energization, startup or release of stored energy that could cause employee injuries.

OSHA says "energy isolating devices" include but are not limited to:

- manually operated electrical circuit breakers
- disconnect switches
- manually operated switches through which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, through which no pole can be operated independently
- line valves
- blocks
- any similar devices used to block or isolate energy

Lockout devices hold energy isolating devices in place. Tagout devices label the energy isolating device and indicate that the equipment should not be operated while locked out.

OSHA requires that lockout and tagout devices be singularly identified; be used only for lockout/tagout purposes; be durable, substantial and identifiable; and be standardized by color, shape or size within a facility.

Want to better understand why lockout/tagout processes exist? See the infographic: "The Need for Lockout/Tagout."

Todd Grover, global senior manager for Applied Safety Solutions at Master Lock, *says in an article in OH&S magazine* that only 10 percent of companies run effective lockout/tagout programs, and 30 percent have no programs.

"If there's insufficient lockout resources or guidance from company leaders, employees may believe that unsafe behaviors are tolerated—if not encouraged," Grover says.

Graphical Procedures: Another Essential Piece of 'Gear'?

It's not enough for manufacturing facilities to create a lockout/tagout program. They also need to provide employee training, make sure the program is implemented and provide written procedures.

"In addition to establishing a thorough program, OSHA requires written lockout procedures for each individual piece of energized equipment," Danielle Gallo, a former product marketing specialist at Brady Worldwide, says in ***Safety and Health magazine***.

A complete written document would suffice to meet the standard requirements set by the Occupational Safety and Health Administration, but a document that provides graphics of the steps needed is more effective, Gallo says.

"Graphical lockout procedures are considered a best practice for your facility because they provide clear and visually intuitive instructions to employees," she says.

ESC Services says graphical procedures help new employees follow procedures correctly, are easier to read and simpler to follow.

"Less text and fewer words are needed to convey information," ESC says. "By adding pictures and presenting information in a grid pattern, fewer words are needed to describe source type, location, necessary devices and shutdown methods."

Graphical procedures also help facilities if reading or language is a barrier for some workers.\\

Lockout/Tagout Devices

Here are some of the types of devices available to help meet OSHA lockout/tagout standards:

Padlocks

Danielle Gallo, a former product marketing specialist for Brady Worldwide, ***says in Safety and Health magazine*** that the ideal padlocks for lockout should be labeled with the name of the person who applied the lock, key-retaining (to make sure the lock is secured before the key is removed), lightweight and nonconductive.

Safety tags

Tags can be used with locks to identify the lock owner, or on their own. If the tag is used without a lock, it must include clear warnings and instructions, and be attached with a self-locking device that can withstand 50 pounds of pull pressure.

Devices

Gallo says these may include ***electrical lockout devices***, multipurpose cable lockout devices or valve lockout devices. Electrical lockout devices, such as those used on circuit breakers or electrical plugs, secure a machine in a powered-off position.

Cable devices provide more flexibility and allow a single device to secure multiple energy isolation points. Valve devices, including ***pneumatic lockouts***, conceal or prevent the operation of gate valves, ball valves, plug valves and butterfly valves, which may supply compressed gases, liquids, steam or other hazardous substances.

Lockout hasps

At times, multiple employees may all be working on the same equipment. Safety hasps are one option for locking out a machine in a way that ensures all employees are finished before the machinery is re-energized.

"Whenever there are a low number of employees with a low number of energy sources to lock out, it is usually beneficial to put a hasp on each energy source and have each employee lock it out," says Ashley Hayes, engineering operations manager with ESC Services.

Group lockout boxes

These boxes are another way to manage a group of employees working on equipment at one time but are more efficient when large groups of employees and multiple machines are involved.

"Each energy source is locked out (using regular lockout locks) by an employee in charge," Reyes says. "Then the keys for all those locks are placed into a group lock box. This lock box is then locked by each employee involved placing their individual locks onto the box. Having an employee in charge ensures then the keys to unlock all the energy sources cannot be accessed unless all involved employees are aware and remove their locks from the group lock box."

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> Global Senior Manager, Applied Safety Solutions at Master Lock

Using Lockout/Tagout Kits and Stations

It doesn't matter what ***lockout/tagout equipment*** you invest in if your employees don't use it consistently.

Jenna Martell, a marketing adviser for security company ***ABUS USA***, says having lockout/tagout supplies and equipment in one easy-to-find location, using kits or stations, makes follow-through on safety procedures easier for employees.

"A kit, for example, would consist of a small toolbox or pouch that contains all the items for locking out a particular machine or piece of equipment, such as padlocks, machine-specific devices, tags and any other accessories.

"Kits are usually portable but should be kept right near the machines they are prepared for," Martell ***writes in Safety and Health magazine***. Lockout stations "are usually a high-visibility color, such as yellow, and are made to be mounted on a wall near the machine or piece of equipment their contents lock out. These are a great visual reminder for employees to follow proper lockout procedures."

Grover emphasizes that to be useful, devices should be located close to the machines where they will be used.

“Placing sufficient equipment in close proximity to machinery makes a real difference by eliminating excuses to cut corners on safety,” he ***writes in EHS Today***. “A system of making lockout devices accessible with visible and user-friendly wall-mount and cabinet-based stations, or with dedicated drawer storage, sends a clear message that safe work practices matter and are expected to be used.”

How does your plant handle lockout/tagout processes?