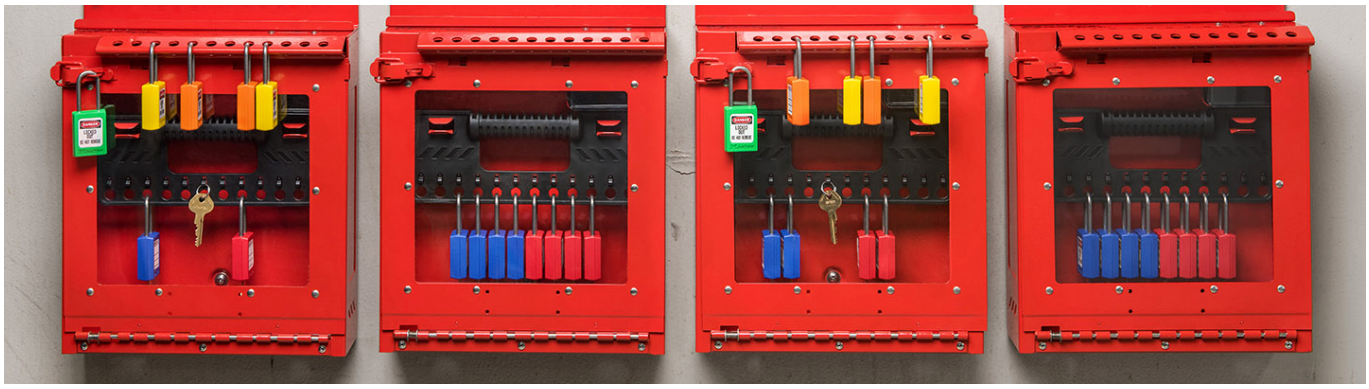

Employee Safety

Master Lock on Productivity With Compliant Lockout Padlocks

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Compliance. Accountability. Productivity. These words should resonate with any supervisor or manager with responsibilities for the safety of maintenance and operations personnel. Ensuring a safe and compliant work environment is first and foremost. But sustaining the effort while optimizing productivity is also important.

The Occupational Safety and Health Administration (OSHA) standard for the control of hazardous energy, ***29 CFR 1910.147***, addresses the need to take machinery or equipment down to a state of zero hazardous energy before commencing maintenance or service activities. This is for good reason. Operations and maintenance personnel face a risk of injury while performing their duties, and so programs and procedures must be in place to create a safe work environment for them.

The OSHA standard includes a requirement to lock out energy sources on machinery, which implies that extra steps are necessary to perform servicing tasks and introduces the concept of accountability. Are energy isolation procedures being followed correctly?

> **How you address OSHA's requirements for lockout equipment should be put into the context of your facility. Study the lockout padlocks that are available in the market. Which options streamline your efforts to execute lockout?**

Although operating a safe and compliant work environment is the top priority, optimizing machine uptime is also part of the equation. It's important to understand that these concepts are not necessarily mutually exclusive. ***Having the right lockout equipment***—and more specifically, lockout padlocks—can help your business accomplish both compliance and productivity.

How you address OSHA's requirements for lockout equipment should be put into the context of your facility, your teams and your lockout program. Study the lockout padlocks that are available in the market. Which options streamline your efforts to execute lockout? Considering this upfront becomes increasingly more important as the size and complexity of your operations increase.

Understanding the OSHA Standards

OSHA requires that safety padlocks be durable and substantial. Design and construction should be conducive to your operating environment. Special consideration should be given for harsh operating environments, such as the presence of corrosives or particulates that may affect a lock's functionality over time. For the harshest environments, build a plan for periodic maintenance and replacement.

OSHA also states that padlocks should be exclusive for safety, standardized and identifiable.

Exclusive for safety: Visual cues provided by the lockout equipment are an extremely important aspect of ***lockout/tagout***. The presence of the lockout padlock signifies to both ***authorized and affected personnel*** that lockout is taking place. It signifies an employee is performing maintenance activities and that equipment has been taken to a state of zero energy. It signifies a safe work environment is secured by the padlock and those around should not mess or tamper with the lock.

Failure to designate specific locks and make them exclusive to tagout dilutes the visual cues and the messages they send. If the padlock being used for lockout is the same or similar to one on the perimeter fence gate or an employee's locker, workers must look beyond the visual cues of the padlock to understand what is taking place.

Standardized and identifiable: Types, colors and markings of padlocks help to support standardization and identification. Maintenance operations could be segmented by craft, department or facility, and lock specifications assigned to each segment. Alternatively, the application of the lock could be segmented, whether it is for personal locks, equipment locks for group lockout, control locks to manage the official start and end of the lockout, or transfer locks that bridge lockout activities across shifts. In many cases, it's a blend of approaches.

For example, assigning blue padlocks to electricians achieves standardization by formally defining it in the lockout program, and identification as well. If a servicing task requires the support of an electrician, you should find blue locks at the energy isolation points or on one of the group lockboxes assigned to the job.

The American Lock No. A1105RED Aluminum Padlock is ideal for severe environments. (Image courtesy of Master Lock)

Supervisors should be able to read a lockout procedure or safe work permit, understand the nature of the work being done, and tie out the locks to the task and workers. If a job requires an electrician and electricians are assigned blue locks, do you see a blue lock?

Markings on locks can provide an indication to ownership—whether it be an employee or department—and help identify a set of locks. It is common to engrave the key number, set size and sequential number on each lock within a set. Doing so helps lockout coordinators quickly identify when a lock is missing and facilitates the process for ordering a replacement.

Choosing the Right Key System

When choosing a safety padlock, it is important to understand the task at hand. If multiple locks are going to be applied on a typical job, you want to consider the type of key system that makes padlock installation and removal simple and frustration-free.

In North America, the two most frequently used key systems are “keyed different” and “keyed alike.”

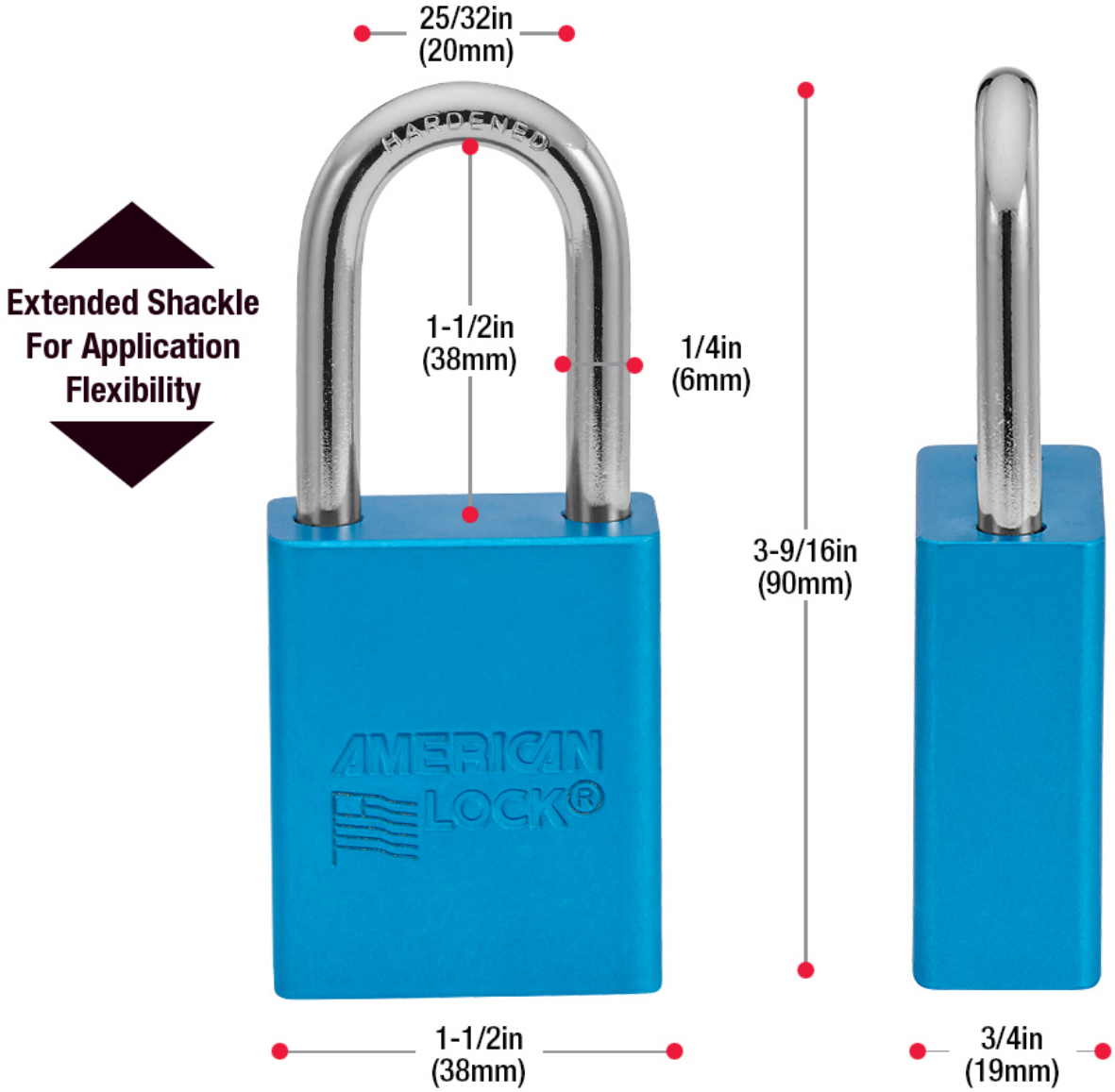
Read more: Lockout Safety Procedures: 5 Elements Critical to Success

Keyed-different locks: Each of these locks has its own unique key. If an employee is most commonly applying a single lock, this kind of key system is the easy choice. If, however, more than one lock is applied for each job, keyed-different locks will work but may not be frustration-free. For example, having four keyed-different locks to perform a lockout implies there is a 1 in 4 chance the first key pulled from the authorized employee's pocket will open the lock, wasting time and adding frustration when determining which key opens which lock.

Keyed-alike locks: These are sets of locks that all work with a common key. Keyed-alike locks are common in the execution of group lockout, such as for job locks or equipment locks. Job locks are commonly structured in sets anywhere from a few to hundreds. The more locks that are applied, the more important it is to use a keyed-alike key system. Using a keyed-different padlock system in these cases—and having to match keys and locks during the removal process—would be difficult to execute and take a lot of time.

Managing Keys

On the subject of key systems, it is important to note that managing keys within a facility is critically important. A lockout is secure when the one and only key capable of opening an authorized employee's padlocks is in the pocket of the authorized employee. The integrity and security of a lockout program can be comprised by the existence of another key that is capable of opening an authorized employee's lock but is not in that person's possession.



The American Lock No. A1106BLU Aluminum Padlock has extra clearance in the shackle. (Image courtesy of Master Lock)

Master keys and duplicate keys in the facility—where the presence of those keys is intentional—need to be carefully managed. Processes for managing and accessing keys should be explicitly stated in the company's lockout program. If a lock is abandoned and the facility wishes to reenergize the equipment, duplicate keys are an alternative to a bolt cutter, but it is imperative to have a rigorous process for accessing those keys.

It is possible for the unintentional presence of duplicate keys as well. The larger the key system, the more critical it is to work with the lock manufacturer to chart the keys. Key charting tracks which key codes are shipped to a specific facility and, for standard orders, ensures that new locks have the same key codes as existing locks. If you are replacing a lock in a set or expanding the number of locks in a set, you may request locks be built using an existing key code.

Exploring Lock Functionality

Padlocks function either as key-retaining or non-key-retaining. Choosing one or the other depends on how the locks are used. Making the right selection can mitigate frustration and improve productivity.

Key-retaining locks: These have a shackle that cannot be in the open position without the key being in

the lock and turned to the unlocked position. This is a benefit if locks are being used for personal lockout and the number of locks installed is relatively moderate. If authorized employees do not have the key to the lock in their pocket, they should investigate and make sure the lockout is secure before commencing with any work.

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Non-key-retaining locks: These locks do not require the key to be inserted and turned to have the shackle open. These locks might be preferred in group lockout, where job locks are applied in large quantities and having to manually open and close the lock at each isolation point is cumbersome and adds time to the installation process. To maximize productivity of group lockout, keep the shackles open after removing them when the job is complete and store them in a location with minimal exposure to dust and debris. The process for installing locks for the next job will be significantly more streamlined.

Finding Other Efficiencies

A final opportunity to optimize productivity is deploying personal locks to support routine machine servicing and changeovers. If an employee must cover a lot of physical area and there is a nominal number of locks—such as two or three—typically required for lockout, it makes sense to assign locks to the individual.

Also, if a machine has to be locked out frequently—as in the case of frequent changeovers—or requires a relatively high number of ***locks and devices***, consider placing the lockout equipment at the machine, where it's easily accessible for the next maintenance or changeover event.

Requiring an employee to cross a facility to get lockout equipment is never a good idea. This is especially important for quick-turn maintenance. It shouldn't take four minutes to access lockout equipment to complete a 15-minute servicing job. The extra movement is unproductive and wasteful, and the temptation to skip the long trip to get the lockout equipment doesn't align well with compliance and accountability.

A successful lockout program keeps a company compliant and productive, helps ensure employees return home in the same condition they arrived and enables safety managers to sleep well at night knowing their time, effort and commitment helped to make all of that happen.

How does your company optimize its lockout program? Let us know in the comments below.

