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Quick Reference to OSHA Regulations for Manufacturing

The Occupational Health and Safety Administration has an extensive list of regulations designed to protect workers and ensure safe working environments. The manufacturing industry is one of several that falls under a large number of specific rules that are enforced to prevent injury, death and exposure to toxic substances.

Failure to comply with these standards can result in significant fines or even business closure. Many of these standards can be referred to as Life Critical.

Lockout - Tagout

When equipment or machinery is undergoing maintenance or repairs, a prevention measure must be taken to ensure the equipment cannot be operated. A lockout device must be placed at the power source to prevent an unfamiliar individual from turning the machinery on. This rule even applies for short maintenance intervals, for example, if a machine guard is removed to access jammed materials.

When tagouts are used, the tag or lock should include the information regarding who placed the tag and the time of placement. Only the original individual or a responsible party is allowed to remove the tag. If a responsible party removes the tag, a complete inspection must be performed to ensure that no one is working on the equipment at the time it is re-energized.

Confined Space

Many workplaces contain areas that are considered "confined spaces" because while they are not necessarily designed for people, they are large enough for workers to enter and perform certain jobs. A confined space also has limited or restricted means for entry or exit and is not designed for continuous occupancy. Confined spaces include, but are not limited to, tanks, vessels, silos, storage bins, hoppers, vaults, pits, manholes, tunnels, equipment housings, ductwork, pipelines, etc.

OSHA uses the term "permit-required confined space" (permit space) to describe a confined space that has one or more of the following characteristics: contains or has the potential to contain a hazardous atmosphere; contains a material that has the potential to engulf an entrant; has walls that converge inward or floors that slope downward and taper into a smaller area which could trap or asphyxiate an entrant; or contains any other recognized safety or health hazard, such as unguarded machinery, exposed live wires, or heat stress.

Machine Guards

Guards are designed to offer two forms of protection to operators or bystanders. The first function is to prevent the operator, or another individual, from becoming caught in the machinery. Guards must be designed to prevent anyone from reaching into operating machinery.

Machine guards are also used to prevent debris or sparks from flying out of the equipment and injuring the operator or anyone nearby. ANSI (American National Standards Institute) also uses standards for machine

guarding and OSHA may enforce these additional regulations. Guards must not be removed while the equipment is in operation.

Modifications cannot be made to the guards that reduce the effectiveness. When guards are replaced, the replacement must be performed with an original manufacturer's part or an equivalent part that meets or exceeds the original specifications. A critical portion of this regulation is that the new material must have the same or greater impact resistance.

Personal Protective Equipment (PPE)

The requirement for PPE does not just apply to the construction industry. Hard hats, goggles and protective clothing may be required in many manufacturing environments. Goggles or safety glasses are required for anyone operating machinery that may expose the individual to flying particles. Those working in a laboratory with any form of chemicals, acids or caustic liquids, gases or vapors must also wear protective eyewear. Eye protection requirements also applies to bystanders that can be exposed to the same risks.

Steel-toe boots are required in any environment where heavy materials may be dropped or an individual's foot could be run over by machinery. The shoe requirement is only for individuals in the manufacturing portion of the facility. Steel or plastic caps can be worn over regular shoes as long as the materials meets ANSI standards Z41.1-1991 or Z41-1999.

Gloves must be provided to workers when their hands may be exposed to cuts, abrasions or puncture wounds. Exposure to extreme temperatures, chemical or thermal burns or harmful substances also require the use hand protection. The type of protection required depends on the type of danger presented.

Ear protection is required for any worker that is exposed to 85 decibels or more over the course of an eight-hour day. If noise levels reach 90 decibels, OSHA requires the employer to reduce the noise or reduce the time the worker is exposed to the noise level.

In any environment where a worker is exposed to objects overhead, that could fall and produce a head injury. Hard hats are even required for forklift operators if the cab is not fully protected from falling materials. Head protection is also required in areas subject to flying objects.

Arc flash suits are normally only required for use by electricians working in an area with a high potential for arc flash. However, affected workers, those working in an area where there is potential for an event should have protective clothing.

Warning Signs

OSHA has a list of requirements regarding warning signs that must be present in manufacturing facilities. Pictorial identification and color codes should be used in signage for a universal understanding. Danger signs will include the color red. Warning or caution signs must have a yellow background. General safety signs are white with green lettering.

Any worker entering an area where signs are used to indicate hazards must be aware of the meaning of the signs. All signs must be clearly visible from a safe distance from the hazard. Labels or tags attached to hazards must be attached in a way that prevents accidental removal.

In addition to warning signs, a series of other signs must be visible to all workers and visitors. Signs must be present to indicate eyewash stations, emergency showers and first aid stations. Exit signs must be clearly visible and exits must not be locked or blocked during operations.

Compliance

Employers must not only provide the safety equipment required they must also provide the correct training and keep records of training and accidents. An OSHA inspector is allowed to inspect a facility without advanced warning.

Willful violations can result in fines up to \$500,000 and could include a jail term. Citations may be issued for and safety or health violation, as well as falsifying documents or denying an inspector access to a facility. It is important to keep in mind that OSHA provides compliance assistance programs and is willing to work with manufacturing facilities in order to improve the health and safety of the environment. A free evaluation consultation is also available.

As of March 2014, OSHA released educational materials that explain injury-reporting procedures for temporary workers. Temporary workers are required to have the same safety training as regular full or part-time workers.

Source:

http://www.manufacturing-safety.com/Machine_Guarding.html,

http://www.manufacturing-safety.com/Lockout_Tagout2.html,

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9788&p_text_version=FALSE,

https://www.osha.gov/dcsp/compliance_assistance/index.html,

http://www.manufacturing-safety.com/PPE_Equipment2.html,

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=25737

<https://www.osha.gov/SLTC/confinedspaces/index.html>