



SafetyAlert

We're Serious About Safety

Machine Guarding – (OSHA 1910 Subpart O)

Moving machine parts have the potential to cause severe workplace injuries, such as crushed fingers or hands, amputations, burns, or blindness. Guards or Safeguards are essential for protecting workers from these preventable injuries. Any machine part, function, or process that may cause injury must be safeguarded. When the operation of a machine or accidental contact can injure the operator or others in the vicinity, the hazards must be eliminated or controlled. The Performance Criteria for Safeguarding [ANSI B11.19-2003] national consensus standard provides valuable guidance as the standard addresses the design, construction, installation, operation and maintenance of the safeguarding used to protect employees from machine hazards.

Injuries

According to OSHA, workers who operate and maintain machinery suffer approximately 18,000 amputations, lacerations, crushing injuries, abrasions, and over 800 deaths per year. Amputation is one of the most severe and crippling types of injuries in the occupational workplace, and often results in permanent disability.

Hazards

A wide variety of mechanical motions and actions may present hazards to workers operating or working around machinery. The three basic types of hazardous mechanical motions and actions are the following:

- **Hazardous Motions:** rotating machine parts, reciprocating motions, and transverse motions.
- **Points of Operation:** where the machine cuts, shapes, bores, or bends the stock being fed through it.
- **Pinch Points and Shear Points:** the area where a part of the body or clothing could be caught between a moving part and a stationary object.

Methods of Safeguarding

- **Guards:** these are physical barriers that prevent contact. They can be fixed, interlocked, adjustable, or self-adjusting.
- **Devices:** these limit or prevent access to the hazardous area such as presence-sensing devices, safety trip controls, two-hand controls, or gates.
- **Automated Feeding and Ejection Mechanisms:** These eliminate the operator's exposure to the point of operation while handling materials.
- **Machine Location or Distance:** this method removes the hazard from the operator's work area.
- **Miscellaneous Aids:** Examples include shields, awareness barriers and tools.



Guarding Must:

- **Prevent contact:** Machine guards must provide a physical barrier that prevents the operator from having any part of his/her body in the "danger zone" during the machine's operating cycle.
- **Be secured in place and tamper proof:** Machine guards must be secure and strong so that workers are not able to bypass, remove, or tamper with them. They must be attached to the machine where possible.
- **Create no new hazard:** A safeguard defeats its own purpose if it creates a hazard of its own.
- **Allow for lubrication with the guard still in place:** If possible, one should be able to lubricate the machine without removing safeguards.
- **Not interfere with the machine operation:** Any safeguard which impedes a worker from performing the job quickly and comfortably might soon be overridden or disregarded.



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