

# Safety Analysis and Implementation Machine Guarding

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**Abstract:** Machine guarding is a safety feature on or around manufacturing or other engineering equipment, consisting of a shield or device covering hazardous areas of machine. To prevent contact with body parts or to control hazards like chips or sparks from exciting the machine. Machine guarding provide a means to protect human from injury while working nearby or while operating equipment. It is often the first line of defence to protects operates and injury on around industrial machinery during normal operations. Point guarded refers to guarding of moving parts on machine that presents a hazard to a machine operator or who may come in contact with the hazard. OSHA 1910.212 .Point of operation guarding refers to the area of a machine where the work is performed. Prevent the operating from having any parts of the body in the danger zone during the operating cycle.

**Index Terms:** Machine guarding; occupational safety; risk assessment; lockout; tagout.

**BACKGROUND:** Machine guarding is a safety feature on or around manufacturing or other engineering equipment, consisting of a shield or device covering hazardous areas of machine. To prevent contact with body parts or to control hazards like chips or sparks from exciting the machine. Safe guards at the point of operation were missing an inadequate on machines. Older machines were both widely used and less likely than new machines to properly guarded. Lockout and Tag out procedure were posted at only of machine workstation.

**METHODS:** There are many ways to safeguard machinery. The type of operation, the size or shape of stock, the method of handling, and the physical layout of the work area, the type of material, and production requirements or limitations will help to determine the appropriate safeguarding method for the individual machine.

**CONCLUSIONS:** Good safety management system and effectively machine guarding programmers are plays key role in achieving zero incidents in engineering industry. The safety of management is a continuous process; once current workplace hazards successfully controlled the process does not stop. Systematic monitoring and reviews must be implemented because of the potential for new hazards to be introduced into a workplace.

## I. Introduction

This term work is a Machine guarding for an engineering Industry.Each employee should clearly know and understand how to perform a task safely. Machine guarding is required as a basic need as well as statutory requirement.Basic need of machine guarding is to protect against contact withthe dangerous and moving parts of a machine, work in process and failure due to mechanical, electrical, chemical or human causes. The guards remove workers' fear and thereby increase their morale and the production. They allow the operation at higher speeds and compensate the expenditure on guarding.

Where danger exists from machinery, safe working practice alone is insufficient and cannot be relied on from safety point of view. Guards are essential as an engineering and built-in control to prevent accident when otherprecautions fail.Most of engineering industry the accidents happened due to machinery. Absence or defect of guard is the main cause of accidents due to moving machines or their dangerous 'parts, Types of such dangerous parts are many.It is obvious that when cutting edges of sharp tools, rotating -and -projecting -parts, point of operation or contact point of die and punch, nip (contact) points of pulley - belts or gears, rollers, calendar rolls, traversing tools bored etc. are unguarded and workers are exposed to such openly moving i.e. unguarded parts, their risk of accident is highest. Long sleeves (shirt), Sadie, chain, i.e. muffler, shawl etc can trap or entangle into unguardedrotating parts and serious or fatal accidents are possible.

## II. METHODS OF MACHINE SAFE GUARDING

There are many ways to safeguard machinery. The type of operation, the sizeor shape of stock, the method of handling, the physical layout of the work area, the type of material, and production requirements or limitations will help to determine theappropriate safeguarding method for the individual machine. As a general rule, power transmission apparatus is best protected by fixed guards that enclose the danger area. For hazards at the point of operation, where moving parts actually perform work on stock, several kinds of safeguarding are possible. One must alwayschoose the most effective and practical means available. We can group safeguards under five general classifications.

### Two-hand Control:

The two-hand control requires constant, concurrent pressure by the operator to activate the machine. This kind of control requires a part-revolution clutch, brake and a brake monitor if used on a power press as shown in Figure 17. With this type of device, the operator's hands are required to be at a safe location (on control buttons) and at a safe distance from the danger area while the machine completes its closing cycle.



### III. CONCLUSION

In this term of Machine Guarding in Engineering Industry, its various manufacturing machine are significantly audited. Good safety management system and effectively machine guarding programmers are plays key role in achieving zero incidents in engineering industry. The safety of management is a continuous process; once current workplace hazards successfully controlled the process does not stop. Systematic monitoring and reviews must be implemented because of the potential for new hazards to be introduced into a workplace.

This use of new technology, equipment are substances.

The introduction of New York practices and procedures.

A change in work environment.

The introduction of new staff with different skill / knowledge levels.

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