

## PROTECT AGAINST MACHINE ACCIDENTS

In 2017, machinery-related incidents were the second leading cause of major injuries at the workplace with 74 cases, where workers are struck by, caught in-between, and cut or stabbed by machines and tools. About 90% of these cases resulted in amputation.

In the first five months of 2018, there were 30 machinery-related major injuries. Preliminary findings from these incidents showed that there were inadequate safety provisions at the workplace such as the lack of proper machine guarding and risk management.

**Workers who handle unguarded machinery may be subjected to the following:**

### Mechanical hazards

- Entanglement
- Cutting
- Crushing
- Impact
- Shearing
- Draw-in

### Non-mechanical hazards

- Contact with hot or cold surfaces
- Contact with chemicals
- Contact with electricity

Figures 1 and 2 show an example of a machine with and without guarding.



*Figure 1: Mixer without guard*



*Figure 2: Mixer with guard cover fitted with interlock switch that cuts off power supply once the cover is open*

## Recommended Good Practices

- Allow only trained, competent and authorised personnel to operate the machine.
- Safe work procedure should indicate that machine operators are to check that equipment guarding are in place before operating the machine.
- Install safety sign(s) to alert machine operator to the presence of a hazard.
- Ensure the machine is properly isolated from hazardous energy sources (via Lockout Tagout procedure) before carrying out machine maintenance or repair.
- Ideally, workers should not work alone so that there will always be someone around to respond to an emergency situation.

## Further information

1. WSH Guidelines on Safe Use of Machinery.
2. Technical Advisory for Safe Use of Power Presses and Press Brakes.
3. WSH Council's Case Studies for Metalworking Industry.
4. WSH Council's Case Studies on Food Manufacturing.
5. WSH Council's Activity Based Checklist – Working Safely with Machines.
6. WSH Council's 6 Basic Workplace Safety and Health Rules for Working with Machines.
7. UK Health and Safety Executive's "Providing and Using Work Equipment Safely (INDG291 rev1)".
8. US Occupational Safety and Health Administration's Machine Guarding eTool.