

## Excerpt from the Machinery Directive 2006/42/EC

The Machinery Directive provides the harmonization of the essential health and safety requirements for machinery through a combination of mandatory health and safety requirements and voluntary harmonized standards. The regulations apply to machinery, interchangeable equipment, safety components, lifting accessories, chains, ropes, webbing, removable mechanical transmission devices and partly completed machinery. The Member States of the EU, Norway, Iceland, Lichtenstein and Turkey are obliged to incorporate the Directive into their legislature.

The Machinery Directive paragraph 1.3.7 **Prevention of risks related to moving parts** clear that:

The moving parts of machinery must be designed, built and laid out to avoid hazards or, where hazards persist, fixed with guards or protective devices in such a way as to prevent all risk of contact which could lead to accidents.

And, paragraph 1.3.8 **Choice of protection against risks related to moving parts** clear that:

Guards or protective devices designed to protect against risks arising from moving parts must be selected on the basis of the type of risk. The following guidelines must be used to help to make the choice.

### 1.3.8.1 **Moving transmission parts**

Guards designed to protect persons against the hazards generated by moving transmission parts must be:

- either fixed guards as referred to in section 1.4.2.1, or
- interlocking movable guards as referred to in section 1.4.2.2.

Interlocking movable guards should be used where frequent access is envisaged.

In the Machinery Directive paragraph **1.4 REQUIRED CHARACTERISTICS OF GUARDS AND PROTECTIVE DEVICES** you can read about the requirements which a machine guard shall comply to.

Paragraph 1.4.1 **General requirements** clear that; Guards and protective devices must:

- be of robust construction,
- be securely held in place,
- not give rise to any additional hazard,
- not be easy to by-pass or render non-operational,

- be located at an adequate distance from the danger zone,
- cause minimum obstruction to the view of the production process, and
- enable essential work to be carried out on the installation and/or replacement of tools and for maintenance purposes by restricting access exclusively to the area where the work has to be done, if possible without the guard having to be removed or the protective device having to be disabled.

In addition, guards must, where possible, protect against the ejection or falling of materials or objects and against emissions generated by the machinery.

### 1.4.2 *Special requirements for guards*

#### 1.4.2.1 **Fixed guards**

Fixed guards must be fixed by systems that can be opened or removed only with tools. Their fixing systems must remain attached to the guards or to the machinery when the guards are removed.

Where possible, guards must be incapable of remaining in place without their fixings.

#### 1.4.2.2 **Interlocking movable guards**

Interlocking movable guards must:

- as far as possible remain attached to the machinery when open,
- be designed and constructed in such a way that they can be adjusted only by means of an intentional action.

Interlocking movable guards must be associated with an interlocking device that:

- prevents the start of hazardous machinery functions until they are closed and
- gives a stop command whenever they are no longer closed.

Where it is possible for an operator to reach the danger zone before the risk due to the hazardous machinery functions has ceased, movable guards must be associated with a guard locking device in addition to an interlocking device that:

- prevents the start of hazardous machinery functions until the guard is closed and locked, and

- keeps the guard closed and locked until the risk of injury from the hazardous machinery functions has ceased.

Interlocking movable guards must be designed in such a way that the absence or failure of one of their components prevents starting or stops the hazardous machinery functions.