Occupational health and safety

Machinery Safety (ISO 12100:2010)

One day to apply the principles of ISO 12100:2010 to your machines: determine their limits, identify hazards, estimate and evaluate the risk, then reduce it in the right order, from inherently safe design to guards and information for use. Useful when buying, modifying or upgrading equipment, with a workshop on a machine from your site.

Duration : 1 day

Objectives

1. Explain the risk assessment and risk reduction approach described by ISO 12100:2010
2. Determine the limits of a machine: intended use, reasonably foreseeable misuse, life-cycle phases
3. Identify hazards and hazardous situations, including during setting, cleaning and maintenance
4. Apply the three-step risk reduction method and choose suitable guards
5. Write safety requirements into a specification for purchasing or modifying a machine

Programme

Day 1 — morning

• Place of ISO 12100:2010 among machinery safety standards: general standards, topic standards, machine-type standards

• Machine limits and life-cycle phases: transport, installation, production, setting, cleaning, maintenance, dismantling

• Hazards: mechanical, electrical, thermal, noise, vibration, materials, ergonomics

• Risk estimation: severity, exposure, probability of occurrence, possibility of avoiding the harm

Day 1 — afternoon (workshop)

• Three-step risk reduction: inherently safe design, safeguarding and complementary measures, information for use

• Fixed and movable guards, protective devices, emergency stop: principles of selection

• Workshop: risk assessment of a machine from your site and an upgrade plan

• Requirements to include in a specification for purchase or modification; knowledge test

Teaching methods

• Presentation of the standard’s approach, illustrated with food processing, packaging and mechanical machines

• Observation of a machine from your site, running and then stopped

• Risk assessment grid applied in sub-groups

• Analysis of specifications or manufacturer manuals that you provide

• Knowledge test on the risk assessment and reduction approach

Assessment and documents

Knowledge test and day+1 learner feedback survey. Numbered certificate, verifiable online, for each participant; training report and the risk assessment of the machine studied in the workshop given to the company.

Bilingual materials for every participant; each classroom course comes with its digital twin on OmniLearn.

Good to know

The course covers the approach of ISO 12100:2010, not the detailed design of safety control circuits. For work on machines, see “Lockout / Unlock (LOTO)”.

Practical information

Duration	1 day
Audience	Maintenance and new-works managers, design offices, HSE managers, equipment buyers
Prerequisites	Knowing how the machines of one’s site work.
Group size	Groups of 6 to 12 participants, in-company
Format	In-company, face to face on your site
Language	French, Darija or English; bilingual materials
Funding	OFPPT special training contracts (TFP), GIAC, Maroc PME: we prepare the applications with you, at no extra cost.
Programme customisation	Programme adapted to your procedures, your equipment and your audience

Frequently asked questions

Is the course for machine manufacturers or machine users?
Both. Users find a method to buy, accept, modify or upgrade machines, including old ones; design offices and manufacturers find the standard’s design approach.

Is an imported machine with CE marking necessarily safe at our site?
The marking indicates that the manufacturer declares compliance with the applicable European requirements. Installation, modifications and actual use on your site can create other risks: the course shows how to spot them on acceptance and after each modification.

How does this relate to occupational risk assessment?
Risk assessment deals with the workstation and the real work; ISO 12100:2010 deals with the machine itself. The two approaches feed each other: a poorly controlled machine risk shows up in the workstation assessment, and its solution often lies in the machine.

Do we need a copy of the standard?
It is not necessary to follow the course, which presents the approach and its steps. A design office or a new-works department will benefit from acquiring the text to apply it day to day.