



European Commission

ENTERPRISE AND INDUSTRY DIRECTORATE GENERAL

Low Voltage Directive 73/23/EEC

Council Directive of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (73/23/EEC)



Art. 1

What is covered by the LVD?

Electrical equipment

designed for use with a voltage rating of

[50, 1000] V (Alternating Current)

[75, 1500] V (Direct Current)



exceptions



What is not covered by the LVD? **Annex I**

- Electrical equipment for use in **explosive atmospheres**
- Electrical equipment for **radiology and medical purposes**
- Electrical parts for goods and passenger **lifts**
- **Electricity meters**
- **Plugs and socket outlets** for domestic use
- **Electric fence controllers**
- **Specialised electrical equipment** for use on **ships, aircraft or railways**



Does not apply to electrical installations

- Installation rules are not harmonised in Europe:
Different installation rules may lead to different requirements, i.e. plug and socket outlets are different



- But equipment for electrical installations is covered;



Interface Machinery Directive - LVD

- Article 1(5) of machinery directive 98/37/EC :

“Where, for machinery, the risks are mainly of electrical origin, such machinery shall be covered exclusively by Directive 73/23/EEC”

- Where, in the case of machines, it cannot be established that the risks are mainly of electrical origin, both the Machinery and the LVD Directives apply in a complementary way



Main requirements of the LVD

Art. 2

- Only products are allowed in the market
 - in compliance with **safety objectives** and
 - manufactured in accordance with **good engineering practice**;
 - safe, when properly installed and maintained

Art. 3

- The **free movement** of compliant products shall not be impeded for safety reasons;

11 safety objectives



Safety objectives

- General conditions
- Protections against hazards arising **from** the equipment;
- Protections against hazards caused **by external** influences

Annex I



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General conditions

- Marking, instructions and warning
- Traceability (for market surveillance)
- Safe assembling and connection



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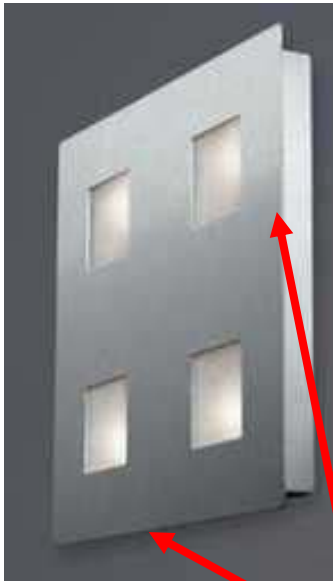
Protections against hazards arising from the technical equipment

- Electrical contact (direct, indirect)
- Temperatures, arcs, radiation
- Non-electrical dangers
- Insulation resistance against foreseeable conditions



Protections against hazards caused by external influences

- Mechanical strength
- Non-mechanical influences
(incl. functional safety)
- Foreseeable conditions of overload



Luminaries with too sharp edges

MECHANICAL HAZARD

Adequate resistance to fire is required

FIRE



Adequate cables and insulation is required

ELECTRIC SHOCK



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Harmonised Standards

Art. 5

Drawn up by **common agreement** by standardisation bodies (CENELEC)

Published under national procedures

Products which comply with **Harmonised Standards** are deemed to fulfil the Essential Requirements

List of harmonised standards are published in the Official Journal of the European Union (OJEU) for information





How to comply with the Essential Requirements?

Manufacturers can apply

- their own technical specifications

or

- Harmonised Standards

**HARMONISED STANDARDS
ARE NOT MANDATORY**

**PRESUMPTION
OF CONFORMITY**
Inversion of the burden
of proof for ERs covered

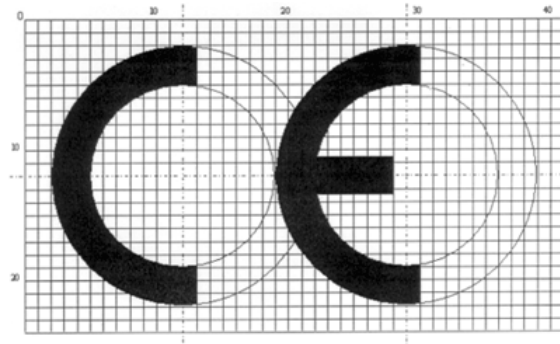


Conformity assessment procedure

Only Module A:

Annex IV

- Internal production control
- No mandatory third party intervention
- CE marking +
EC declaration of conformity





Internal production control

- Technical documentation
 - to be kept in 10 years
 - to enable the assessment of the conformity of the equipment to the requirements of the Directive
- Manufacturing process shall ensure compliance of the manufactured products with the technical documentation

Annex IV



Role of LVD Notified Bodies (1)

No mandatory third party certification!

(It might nevertheless be a good idea to have the product tested by independent experts)

Article 8.2

- In the event of a **challenge by the market surveillance**, the manufacturer or importer may submit a report, drawn by a Notified Body, on the conformity of equipment with safety requirements



Role of LVD Notified Bodies (2)

Article 9

- After safeguard clause notifications
- In the case of divergence of opinions on the justification of a safeguard clause, the Commission shall obtain the opinion of a Notified Body



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Thank you for the attention

http://europa.eu.int/comm/enterprise/electr_equipment/lv/index.htm

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