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(For EC guide notes on exemption from CE marking of Electro Mechanical components see 9 below highlighted in yellow)

Guidelines on the application of Directive 73/23/EEC (2006/95/EC)

III. SCOPE OF THE "LOW VOLTAGE" DIRECTIVE

Which products are covered?

7. The Directive applies to all electrical equipment(6) designed for use with a voltage rating of between 50 and 1000 V for alternating current and between 75 and 1500 V for direct current. Voltage ratings refer to the voltage of the electrical input or output, not to voltages which may appear **inside** the equipment.

Following discussions with Member States the Commission has taken the position that the term "designed for use with a voltage range" shall be understood at equipment having either a rated input voltage or a rated output voltage inside this voltage range. Internally there may be higher voltages.

Battery operated equipment outside the voltage rating is obviously outside the scope of the LVD. Nevertheless, the accompanying battery-charger as well as equipment with integrated power supply unit within the voltage ranges of the Directive, are in the scope of the LVD. This applies also, in the case of battery-operated equipment with supply voltage rating under 50 V AC and 75 V DC, for their accompanying power supply unit (e.g. Notebooks).

However, the following are excluded from the scope of the "Low Voltage" Directive:

- Electrical equipment for use in a potentially explosive atmosphere
- Electrical equipment for radiology and medical purposes



- Electrical parts for lifts
- Electricity meters,

which are covered by other Community directives, and

- Plugs and socket outlets for domestic use⁽⁷⁾
- Electric fence controllers
- Specialised electrical equipment, for use on ships, aircraft or railways which complies with the safety provisions drawn up by international bodies in which the Member States participate,

which so far are not covered by any Community directive and therefore must not be CE marked.

8. Broadly, the Directive covers consumer and capital goods designed to operate within those voltage limits⁽⁸⁾, including in particular electrical appliances⁽⁹⁾, lighting equipment including ballasts, switch gear and control gear, electric wiring, appliance couplers and cord sets, electrical installation equipment⁽¹⁰⁾, etc. The Commission confirms, as already expressed in the Communication of 15 December 1982, that cable management systems are covered by the "Low Voltage" Directive.

Are "components" included in the scope?

9. In general, the scope of the Directive includes both electrical equipment intended for incorporation into other equipment and equipment intended to be used directly without being incorporated.

However, some types of electrical devices, designed and manufactured for being used as basic components to be incorporated into other electrical equipment, are such that their safety to a very large extent depends on how they are integrated into the final product and the overall characteristics of the final product. These basic components include electronic and certain other components (see Footnote (11) at bottom of page).

Taking into account the objectives of the "Low Voltage" Directive, such basic components, the safety of which can only, to a very large extent, be assessed taking into account **how** they are incorporated, **are not covered as such by the Directive**. In particular, **they must not be CE marked**.

However, other electrical components which are intended for being incorporated into other electrical equipment, but for which a safety assessment is feasible⁽¹²⁾, like - for example - some types of transformers and electrical motors, are covered as such by the Directive and must be CE marked.

Moreover, the scope of the exclusion of basic components must not be misunderstood and extended to items like lamps, starters, fuses, switches for household use, elements of electrical installations, etc., which, even if they are often used in conjunction with other electrical equipment and have

to be properly installed in order to deliver their useful function, are themselves to be considered electrical equipment in the sense of the Directive.

Which safety aspects are covered by the Directive?

10. The Directive covers all risks arising from the use of electrical equipment, including not just electrical ones but also mechanical, chemical (such as, in particular, emission of aggressive substances) and all other risks. The Directive also covers health aspects of noise and vibrations, and ergonomic aspects as far as ergonomic requirements are necessary to protect against hazards in the sense of the Directive.

Article 2 and Annex I lay down eleven "safety objectives", which represent the essential requirements of this Directive.

11. It should be noted that electromagnetic compatibility (emission and immunity) aspects are excluded from the scope of this Directive and are separately regulated under Directive 89/336/EEC.

Radiation aspects referred to in Annex I to the Directive are limited to those directly relevant for health and safety of persons and domestic animals and do not cover electromagnetic disturbances in the sense of the EMC Directive.

The Commission interpret that all electromagnetic aspects relating to safety including functional safety are covered by the LVD. This covers also the effect of electromagnetic fields, emitted by electrical apparatus.

12. Finally, it should also be noted again that for certain electrical equipment, the provisions of other directives also apply.

(6) The term "electrical equipment" is not defined in the Directive. Therefore it is to be interpreted according to the internationally recognised meaning of this term. The definition in the "International Electrotechnical Dictionary" of IEC (International Electrotechnical Commission) is : "any item used for such purposes as generation, conversion, transmission, distribution or utilisation of electrical energy, such as machines, transformers, apparatus, measuring instruments, protective devices, wiring material, appliances."

(7) "Domestic" plugs and sockets are also used in commercial or industrial premises, for uses which do not require specialised industrial features.

(8) Tools for live working (like screwdrivers etc.) are not included. However, such tools are covered by standard EN 60900, not published under the LV Directive.

(9) The LVD Working Party has given the opinion that **hand-held and transportable electrically driven tools** such as power tool and lawnmowers are not covered by the LVD but by the Machinery Directive. See also chapter 29 of this guide.

(10) Insulating tapes, for which safety depends critically not only on their intrinsic characteristics but also on how they are used under very variable conditions, are

not considered electrical equipment and are not covered by the Directive. A European standard, EN 60454, exists for such tapes, which is **not** published under the Low Voltage Directive.

(11) This includes, i.a., active components such as integrated circuits, transistors, diodes, rectifiers, triacs, GTO's, IGTB's, opto-semi-conductors; passive components such as capacitors, inductance, resistors, filters;
electromechanical components such as connectors, devices for mechanical protection which are part of equipment, relays with terminals for printed circuit boards, micro switches.

(12) A further assessment of the safety aspects related to the way in which such components are incorporated is in general also necessary.



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