



## Safety Rules

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### ELECTRICAL AND OPTICAL SAFETY

## Safety rules for the domain of Electrical and Optical Safety

### Safety rules according to the new classification

None.

### Safety rules according to the old classification

#### **Safety Code C1 - Electrical safety code** (1990) [en](#) [fr](#)

The aim of this code (based on the most recent IEC or CENELEC standards) is to establish regulations for the construction, installation and use of electrical equipment which guarantee the protection of personnel and property, and applies to all persons under the Director-General's authority, including contractors and experimental groups, and to all electrical equipment and installations on all sites. Personnel qualifications, choice of equipment and inspections are some of the subjects dealt with.

#### **Safety Instruction IS 4 Rev. - Safety inspections** (2006) [en](#) [fr](#)

Definition of responsibilities and organisational aspects concerning safety inspections, with emphasis for buildings.

#### **Safety Instruction IS 5 - Emergency stops** (2001) [en](#) [fr](#)

Description of the two types of emergency stops (general and local emergency stops), definition of the buildings or areas to be equipped, and effects due to these emergency stops on power supplies or accelerators. Exceptions and rules for safety equipment.

#### **Safety Instruction IS 22 - Rules for the safe use of lasers at CERN** (1994) [en](#) [fr](#)

The radiation produced by lasers may be hazardous to the human eye and skin. It may also present fire or explosion risks. Lasers have been classified according to their exposure hazards. Conditions for use and warning labels and notices are recorded.

#### **Safety Instruction IS 23 - Criteria and standard test methods for the selection of electric cables and wires with respect to fire safety and radiation resistance** (2005) [en](#) [fr](#)

This instruction is based on the latest standards and recommendations to ensure a very high level of safety against hazards associated with smoke, toxicity and corrosivity from burning plastics. It summarizes the required properties for the different materials and cable types and is applicable to all types of cables and wires and other insulated parts to be used in CERN installations.

#### **Safety Instruction IS 24 - Regulations applicable to electrical installations** (1990) [en](#) [fr](#)

Reference is made to publications on electrical installations.

#### **Safety Instruction IS 33 - Voltage domains according to IEC** (1999) [en](#) [fr](#)

Classification of electrical installations according to the voltage value: Extra Low Voltage (E.L.V.), Low Voltage (L.V.), High Voltage (H.V.).

#### **Safety Instruction IS 36 - Safety rules for the use of static magnetic fields at CERN** (2005) [en](#) [fr](#)

Studies on workers exposed to static magnetic fields have indicated various subjective symptoms and functional disturbances. This instruction recalls some of the technical hazards encountered, and informs on exposure limits and on the safety procedures for operating magnets.

#### **Safety Note NS 9 - Guidelines for protection against the hazards of radiofrequency and microwave radiation in the frequency range from 100 kHz to 300 GHz** (1993) [en](#)

Outdated. New version to be published as Safety Instruction 52 (IS52).

#### **Safety Note NS 12 - Recommendations for the habitual use of VDU screens** (1992) [en](#) [fr](#)

This note summarizes some ergonomics principles in order to help solving the most frequent problems caused by work in front of a screen (eyesight correction, proper seating, use of suitable equipment, etc.).

#### **Safety Note NS 24 - Removing unburied ELV and LVA electric conduits** (2001) [en](#) [fr](#)

The preparation of the work, identification of cables are the main points described in this note in order to ensure the protection of personnel during the removing of ELV and LVA electric conduits.

#### **Safety Note NS 30 - Dangers due to electricity** (2009) [en](#)

This note should be considered as an annex to Code C1 and is intended to present the major electrical hazards. It

summarizes in a simple way what is stated in different standards, in particular IEC Publication 479-1 which is the official reference in that field.

*In case of contradiction between Safety rules established according to the classification of SAPOCO 42 version February 2003 (old classification) and Safety rules established according to the classification of SAPOCO rev. November 2006 (new classification) the latter prevail.*

## **Other Documents of interest for the domain of Electrical and Optical Safety**

### **Safety Bulletin 2005-01 - Portable electrical tools with magnetic feet: attach before using [en](#) [fr](#)**

The drill was being used upside down but was not attached. During drilling the magnetic foot detached from the metal surface. The drill which continued to turn struck the operator in the face. The drill fell when the drill bit broke.

### **Safety Bulletin 2001-01 - Avoid accidents of electrical origin through safety training**

Following an high voltage accident with an ion pump, the safety bulletin recollects legal requirements at CERN. Emphasis is put on training and prevention. Links to the legal background are given.

### **Safety Bulletin 1992-02 - Use of lasers**

Following two accidents, it is useful to recall the general rules to be observed when using lasers, in particular individual protections for people working in the areas, shielding of the beam, safety devices to be installed, etc.

### **ISI Laser Form [en](#) .doc [en](#) .pdf**

Initial Safety Information on Laser form.

### **Electricity (1988) [en](#) [fr](#)**

Order of 13 December 1988 laying down the special provisions applicable to certain laboratories, test platforms and pilot facilities.

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