

B.II.3. Electricity

1. GENERAL

The electrical installations are to comply with the standards and regulations in force, including:

- the relevant European Directives;
- the Belgian General Regulation on labour protection;
- the Belgian General Regulation on electrical installations;
- the Belgian standards NBN L13-001, L13-006, and C18-100;
- the Belgian Royal Decree of 19 December 1997;
- the latest best practice;
- the requirements stipulated by the electricity supplier.

The installations are to be approved by an authorised body.

2. BASES FOR CALCULATION

2.1. Power estimates

Small applications:

- offices and similar rooms: 30 W/m²
- conference room: 25 W/m²
- entrance hall: 25 W/m²
- interpreter's booth: 25 W/m²
- cafeteria: 5 W/m²
- restaurants: 5 W/m²
- lobbies: 5 W/m²
- toilets and cloakrooms: 5 W/m²
- roadways/walkways (including in car parks and basements): 3 W/m²
- archives/storage rooms: 3 W/m²
- equipment rooms and car parks: 2 W/m²

Power circuits: to be studied

Emergency power supply: to be studied

2.2. Lighting levels

Lighting levels are to be measured at 0.80 m from the floor:

- offices and similar rooms: 500 lux
- meeting rooms: 500 lux
- entrance halls: 300 to 800 lux (with dimmer switch)
- interpreter's booth: see chapter B.I.6.1

- security standby area: 500 lux
- technical management control centre dispatching: 500 lux
- roadways/walkways: 300 lux
- toilets: 250 lux
- restaurants: 400 lux
- kitchens: 500 lux
- technical rooms: 200 lux
- storage rooms: 200 lux
- car parks: 150 lux
- archives: 150 lux
- exterior: 30 lux

Electricity consumption for lighting is to be reduced as much as possible. A consumption of 8 W/m² is considered the optimum at present. If this proves technically impossible, the figure may be increased to 10 W/m² - particularly in special rooms.

3. DESCRIPTION OF THE EQUIPMENT

3.1. High-voltage substation

The transformers are to be of the dry or oil type and must on no account give off noxious gases. The cells are to be of the armoured, prefabricated type. Provision is to be made for a 20% power reserve.

Space is to be provided for an additional transformer and its ancillary devices. An automatic system is to maintain a power factor of 0.95 (with resistance in series).

The presence of any pipes which might contain fluids is prohibited in the high-voltage cabinet, the low-voltage cabinet and the emergency generator.

The ventilation of the cabinet and the transformers' cells must be such as to maintain a temperature in compliance with the electrical equipment's guarantee conditions (generally below 30°C). The entrance to the room must be large enough for replacement transformers to pass through.

The cabinet must be constructed so that any water entering it would be able to flow away before reaching the level of the electrical equipment.

The point where the distributor feed cables enter the room must be accessible.

3.2. Generator (400 V III+N)

The generator must start automatically within a maximum of 12 seconds in the event of a power cut. Switching from the normal to the emergency power supply is to be effected by means of failsafe power-cut switches.

Once the power cut is over, the installations are to be switched back to the normal power supply gradually.

A board for parallel switching on the network after synchronisation is to enable own-energy production.

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