

1. GENERAL ELECTRICAL INSTALLATION

The entire electrical installation shall be erected and tested in accordance with relevant Local Authority and regulations.

1.1. DISTRIBUTION BOARDS

The existing Main DB is in a fair condition and will be retained and rewired as required. New switchgear will be installed where necessary.

All switchboards shall be rendered moisture proof and vermin proof and shall be adequately ventilated.

The load shall be balanced as equally as possible across multiphase supplies.

Flush-mounted switchboards shall be installed, where this is not possible surface mounted switchboards shall comply with relevant Local Authority and regulations. Positions to be approved by client.

1.2. SOCKET OUTLETS

All normal socket outlets shall incorporate one plug and a one socket as per the Local Authority and regulations guidelines.

Unless specified to the contrary, socket-outlets shall be installed at the following heights above finished floor level, measured to the centre of the outlet:

Flush mounted in general: 300mm

kitchens: 1,4m

1.3. DEDICATED SOCKET OUTLETS

If necessary, single dedicated socket outlets shall be of the non-standard type with steel cover plates with red base and with a flat earth-pin in the 12 o'clock position for mounting a 100 x 100 x 50 mm galvanized box or power skirting. The cover plates shall be high grade red baked enamel paint.

1.4. LIGHT SWITCHES

All switches shall be of the 16A rating. Light switches shall be installed 1,4m above finished floor level and 150mm from the door frame unless specified. All single switches shall be installed with the long side of the toggle vertical.

1.5. LIGHT FITTINGS

The mounting positions of light fittings shall be verified on site. All light fittings shall be placed symmetrically with respect to ceiling panels, battens, beams, columns or other architectural features of the space unless otherwise indicated.

Light fittings may also be suspended from ceilings by means of suspended metal channels. The metal channel may be supported by conduits or threaded rods. Should metal rods be utilised, these shall be screwed to anchor bolts fixed in the roof slab. Wiring shall either be installed in conduits fixed to the metal channel or in the metal channels and covered with a suitable cover plate. Purpose-made clamps shall be used to fix the light fittings to the cable channel.

Linear light fittings to be installed directly against concrete slabs or walls shall be securely fixed to the outlet box and at two additional points.

In all cases where light fittings are fixed to false ceilings, the Contractor shall ensure that the ceiling

can carry the weight of the light fittings before commencing installation. Surface mounted fluorescent light fittings shall fit firmly against the ceiling brading without leaving gaps between luminaire and ceiling. The luminaire shall be fixed directly to the ceiling by means of brass plated round-head wood screws and washers.

In the case of tiled ceilings with exposed or concealed T-section supports, surface mounted light fittings shall be fixed only to the tiles by means of butterfly screws or bolts with nuts and washers. The tiles shall be suitably reinforced.

Where recessed light fittings are specified, the Contractor shall maintain close liaison with the ceiling Contractor. In the case of tiled ceilings, the light fittings shall preferably be installed while the metal supports are being installed and before the tiles are placed in position. The Electrical Contractor shall be responsible for the co-ordination of the cutting of ceiling tiles with the other contractors concerned. In all false ceilings where wiring channels are used, recessed light fittings shall be connected to the wiring channels by means of unswitched 5 A socket-outlets.

The following types of light fittings are proposed. All lights shall be of the LED type with integrated surge protection:

Typical light fitting photo	Description
	<p>Type A Light Fitting</p> <p>10W LED downlighter with integrated control gear.</p> <p>Application: In bedrooms, living areas</p>
	<p>Type B Light Fitting</p> <p>25W LED Industrial bulkhead with die-cast aluminium body</p> <p>Application: Exterior</p>
	<p>Type C Light Fitting</p> <p>20W LED Bulkhead luminaire with white trim</p> <p>Application: On staircases</p>
	<p>Type D Light Fitting</p> <p>30W Surface Mounted LED luminaire</p> <p>Application: In stores and offices without suspended ceilings and passages</p>
	<p>Type E Light Fitting</p> <p>1500 50W Damp proof LED luminaire</p> <p>Application: Kitchen, cold rooms, passages and outdoor seating areas</p>
	<p>Type F Light Fitting</p> <p>1200x600 50W LED Panel for surface mounting complete with mounting kit</p> <p>Application: Dining Halls with fibre cement ceiling</p>

All LED luminaires shall bear the Safety Requirements and Performance Requirements Mark as per relevant Local Authority and regulations, and be fitted with high-frequency drivers.

1.6. LIGHTING LEVELS

Lighting levels shall comply with the provisions of SANS 10114-1 as amended to ensure the safety of occupants and to maintain productivity levels. The following levels will be used for the different areas:

Type of interior	Minimum maintained illuminance value (lux)
Entrance halls	100
Circulation areas and corridors	100
Loading ramps/bays	150
Restrooms	100
Stores, stockrooms, cold stores	100
Bakery	300
Kitchen	500
Offices	500
Dining halls, bars	200