

Specification for Electrical Installation

General

If not specifically mentioned in the BOQ items following specifications would apply to the Electrical Installation

Work shall be done in accordance with specifications for electrical and mechanical works - ICTAD Publication No.SCA/8 of Aug.2000 (2nd Edition -Revised)

The whole installation shall be carried out according to CEB/IEE wiring regulations.

All electrical constructions should be according to IEE regulations (18th edition or later) and subject to the instructions of the electrical officer concerned. Jobs attend beyond condition will not be approved please.

All the equipment shall be prior approved by the Engineer.

All switches and socket outlets shall be plated type make "Clipsal", "Orange", "Krypton" or any other approved equivalent complying with SLS1000:1993 for switches & SLS 1998: 1991 for socket outlets.

MCCB:- Schneider, ABB, Siemens, Hager, LS or approved equivalent.

MCB'S & RCCB'S:- Schneider, Siemens, Hager, ETN or approved equivalent.

Cable :- ACL, Kelani or approved equivalent.

Ceiling Fan:- K.D.K. or Japanese origins

Exhaust Fan:- K.D.K. or Japanese origins

LED Fittings/ Tube:-

LED luminaires shall be Philips or equivalent and the other lamps and fittings shall be orange or equivalent if not specifically mentioned at the BOQ item

If not specifically mentioned at the BOQ item; LED Luminaires Minimum efficacy at scotopic condition should be above 100 lumen/W Corelate colour temperature (CCT) should be above 4000K, (Cool White). Colour rendering index (CRI) should be above 70. Rated life time should be above 50,000 hrs.

All Fluorescent fittings shall be zinc coated steel sheet finished with powder coated to 0.45mm thickness complete with electronic choke (Make:-"Atco","BG" original or -Equivalent) starter and the tube should be Thron, Philips, or Osram.

Rate to include switch boxes, Rowl plugs, square pin plug base, Chromium plated M.S. chains, brass hooks, ceiling roses, holders and any other item necessary.

Distribution Board:- Shall be in surface mount metal enclosure fabricated With Zinc coated sheet metal of gauge not less than 1.5 mm total enclosed, with hinged door with protective cover plate for terminals, finished with powder coating of approved colour and components

All the M.C.C.B.'s, MCB's and RCCB's for the distribution boards should be purchased from the authorized agents or from their dealers and a certificate or invoice along with their Company seal and Part No., numbers and warranty should be produced at the time of payment.

Recommended Fabricators of Switch boards and Enclosures;

Elsteel, K.I.K. Lanka (Pvt) Ltd, Pubudu Engineering (pvt) Ltd, Richardsons Projects (pvt) Ltd, OS Project (Pvt) Ltd. (Orange), Or similar product

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Warranty

If in case not specified separately Minimum 2 year warranty from the building handed over date shall be given for all electrical equipment. Warranty cards shall be submitted by the contractor to the Projects Engineer.

All light fittings shall be approved by the project architect/ electrical engineer prior to the installation

Cabling

Internal light wiring shall comply with the drawings and shall be in 230/440 volt single core PVC insulated copper cables

The 2 compartment trunking shall be used in the cases where both data and power lines are routed and the cost shall be distributed and included in the relevant point wiring item.

The contractor is also responsible for the coordination work for ELV installation with different parties when required.

The cable paths/trunking/conduits/casing shall be well matched to the interior arrangement and shall be hidden. The all metal surfaces shall be bonded and earthed

Underground cabling

"Minimum depth of underground cable trenches shall be 600mm. Cable inside trench shall be covered with LT cable tiles of size 450mmx 200mm x 50mm (should be of grade 25)

50mm quarry dust layer should be laid inside the bottom of the trench and the cable should be placed over the top of it.

Another 50mm of quarry dust has to be laid covering the cable before placing the concrete tile.

Warning tape should be placed after filling the excavated soil layer on top of the concrete tile."

Earthing

Number of rods required to obtain the necessary earth resistance shall be determined by the contractor. Testing of earth resistance after installation shall be done by the contractor in the presence of the project Electrical Engineer/Technical officer. All costs for testing shall be borne by the contractor.

CEB supply

The contractor shall coordinate with the CEB throughout the work to avoid the delays in getting the power connection.

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Corrosion control approach

The surface treatment shall be suitable to the C3 corrosivity category as defined in ISO 12944-1 with a durability period not less than 15 years and 7 Years warranty period. Surface preparation to quality standard ST 3 STD).

The details of the proposed painting system, method statement for surface preparation and surface treatment along with method of measurement of dry film thicknesses (DFTs) shall be submitted for Engineer's prior approval.

The total dry film thickness shall be 320 microns (Primer -60 microns , four coats from 65 microns).

Low solid products should be avoided as to achieve the Total DFT within 4 – 5 Coats.

For all purposes it is prudent to obtain certificate for all skilled paint applicators from Paint Manufacture's Training program as to achieve expected performance criteria. They should be knowledgeable to execute the correct procedures and should be able to read understand and execute the product data sheets and manufacturer's recommended procedures as approved the CMC Engineer.

Procedure to check and measure the DFT on the metal of the paint thickness should be mention in the method statement for the advantage of all parties concerned.