

1.3 Fabrication

The Low Voltage Distribution Panel (DB) shall be fabricated with 14 / 16 SWG sheet steel recess / surface mounting as approved by the Engineer. All the components shall be installed on a common component mounting plate inside the enclosure and protected from the front with screwed sheet steel front plate. The enclosure shall be provided with rubber gasketing and a lockable hinged door with cam fastener.

The distribution panel shall be supplied complete with all installation materials as recommended by the manufacturer. The incoming and outgoing cable connections shall be according to the wiring requirements. If required, an adapter box for accommodating the cables and conduits may be provided. The box shall be of the same material and finish as the DB. All holes, cut-out etc. shall be tool or jib manufactured and free from burrs and rough edges.

The cabling inside the DB shall be properly harnessed by means of straps, cords or ties. An earth bar shall be provided for connection of incoming and outgoing earth conductors. The earth bar shall be permanently connected to the body of DB at two points. Flexible copper strip shall be provided for earthing of the door of DB.

Circuit numbers/ designation on all circuits shall be conspicuously marked to facilitate connection and maintenance.

All metal work of the DB shall be cleaned down to bare shining metal phosphated and the surfaces chemically prepared for powder coating. Then these shall be coated with powder of colour RAL 7035 and then baked in oven. The thickness of powder coating shall be in the range of 80 to 100 microns.

1.4 Components

The Low Voltage Distribution Panels (DB) shall be provided with components as specified and shown on the Tender Drawings and required for the satisfactory operation of the distribution panel and of the electrical system.

Typical component specifications are given below:

Bus Bars

The Bus bars shall be imported, made of 99.9% pure high conductivity electrolytic tin plated copper and shall be completely isolated and mechanically braced for the specified fault level. The identification of bus bars shall be by providing colours sleeves on bus bar ends and these shall be red, yellow and blue for phases and black for neutral. The earth bus bar shall be green.

The bus bars shall be for three phase, neutral and earth and shall be of appropriate size to meet the electrical and mechanical requirements of the system. The temperature rise shall not exceed 45°C at rated current.

Contractor is required to provide bus bar selection chart along with shop drawings before commencement of panel manufacturing.

Moulded Case Circuit Breaker (MCCB)

The MCCBs shall be moulded case triple pole 400 Volts of current ratings as shown on the drawings. These shall have fixed magnetic short circuit and adjustable/fixed thermal overload protection.

The MCCBs shall be installed such that their switching levers are accessible through the front plate for operation.

