

- 15.8 All power and control cables shall be in continuous lengths (except for very long feeders) without any joints. The cables used for lighting and wires in conduits shall have appropriate junction boxes with adequately sized terminals. Cable joints in hazardous areas shall not be permitted.
- 15.9 In case of difficulty in connecting the cables to instrument or relay terminals, minimum cross section may be reduced to 1.5 sq.mm Cu. For lighting inside the building, minimum 1.5 sq.mm Cu conductor, PVC insulated wire shall be used in conduit system (for circuit and point wiring), with proper colour coding.
- 15.10 All LT power cables shall be 3 core / 3 1/2 core / 4 core with stranded aluminium / copper conductor with PVC insulation and construction as per IS 1554. For all LPs / PPs incoming power supply cable shall be 4 core of required cross section.
- 15.11 6.6 kV and 11 kV cables shall be unearthed grade.
- 15.12 Size of Aluminium conductor cable shall be limited to 3.5C x 300 sq. mm, in LT, 3C x 400 sq. mm in HT and 1c x 1000 sq. mm in LT/HT.
- 15.13 For all other requirement refer Section-3 Chapter-6

16.0 CABLE TRAYS

- 16.1 Cable trays shall be run in either cable trenches / on overhead cable rack or along the pipe rack to suit the site conditions.

- 16.2 Separate cable trays shall be selected for:-

- HT cables
- LT power cable
- LT control cable
- Instrumentation cables/communication cable
- Cable trays shall be sized considering single layer of cables.

- 16.3 The trays shall not show deflection / bend / deformation after laying of cables.

- 16.4 All cable trays and accessories shall be prefabricated, G.I. ladder type. For tray system design, in addition to self-load and wind forces, following guidelines for design shall be considered.

- Support span : 2000 mm
- Cable load for
 - • 150 mm wide cable tray : 30 kg/m
 - • 300 mm wide cable tray : 60 kg/m
 - • 600 mm wide cable tray : 90 kg/m
 - • 750 mm wide cable tray : 120 kg/m

- 16.5 In addition to this, 70 kg concentrated load at centre span shall be considered. All structural steel design shall be as per Indian Standards and shall be suitable / designed to withstand fire for a minimum period of 30 minutes.

- 16.6 Bends, tees, reducers, crosses, droppers etc. shall have the required bending radii as recommended by the manufacturer with 10% allowance for various cable sizes with a minimum of 300 mm.