

Power connection will be made between MCC boards and local boards. Signal cable will be connected directly. Terminal box will be IP65 and aluminum in submersible pumps and pump power and signal cables will be connected in same terminal box.

### **8.12 Junction Boxes**

General junction boxes are to be constructed of aluminium complete with lid and captive gasket to a degree of IP 65. The necessary number and size of entries together with terminals are to be designed according to circuit requirements. General junction boxes shall be suitable for direct mounting with external fixing holes, and are to be labelled with reference number.

Terminals are to be arranged at different heights for different services and a barrier is to be provided to shield instrument circuits from power circuits at different voltages. Terminals are to be of the necessary number and size (20 % spare) and determined according to respective circuit requirements.

### **8.13 Cable Entries**

Cable entries from one room to another or from outside to inside shall be performed by watertight and fireproof multi cable penetration seals to provide an efficient barrier against fire, smoke, flooding and vermin.

The cable penetration system shall comprise a steel-mounting frame packed with insert blocks to accommodate the cables and to fill out surplus room. After cable installation the insert blocks shall be compressed to complete the sealing.

Each mounting frame shall be embedded in walls.

### **8.14 Cable Glands**

All cable glands are to be of the compression type acting upon the cable sheath and where necessary provided with stockings, which grip the cable. All cable glands are to be of corrosion resistant metal or plastic cable glands will be accepted if it is not original accessory of provided equipment. Cable glands are to be of a type, which will not reduce the degree of tightness of an enclosure, and are to be correctly sized to the cable they seal.

### **8.15 Cables**

All cables used in the plant shall be of stranded type and shall have necessary protection against rodents.

Power cables are cables having operating range  $U \geq 50$  V. Signal cables are cables having operating range  $U < 50$  V

#### **8.15.1 Power cables**

Cable sizes, types and construction must be chosen with due regard to the connected equipment requirements, ambient conditions, installation method, and fault and overcurrents. Generally, the cable manufacturer's published data are to be used in determining cable adequacy.

Power cables shall be selected such that the voltage drop does not exceed the maximum value defined in IEC 60364 at any point in the installation.

Power cables shall generally consist of two types:

- PVC for internal building.
- Cross-linked-polyethylene (XLPE) for all other locations.