1.45.10 Testing.

Suitable testing links be provided at required points as per the code of practice CP 326/IS 2309. The contractor shall carry out tests on completion of the installation and submit the readings for approval.

1.46 SPECIFICATION FOR BUS DUCT

1.46.1 Rating

Bus Duct shall be of rated Current capacity and designed for an ambient temperature of 40 deg C and a temperature rise of 45 deg C above ambient.

1.46.2 Construction:

Bus duct shall be made of 14 SWG CRGA sheet. Bus duct shall be of non-segregated, dust, Vermin proof, Outdoor type with IP-65 protection. Bus duct shall be rectangular cross section.

All sheet steel shall undergo seven tank process treatment for degreasing, de rusting and phosphate followed by epoxy powder coating of RAL 7032 shade (Siemens gray). Bus duct dimensions should be coordinated with Transformer Marshalling box and Main L.T Panel.

90 deg. bends should be consider as per site requirement and will be finalized within 15 days from the date of finalization of order.

1.46.3 Marking of bus-bar and Main Connections

For Making Bus bars and main connections the following colours or Letters or both as given in IS: 375 shall be used

<table>
<thead>
<tr>
<th>SI No</th>
<th>Bus Bar Main Connections</th>
<th>Colour</th>
<th>Letter or Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Three Phase</td>
<td>Red, Yellow &amp; Blue</td>
<td>RYB</td>
</tr>
<tr>
<td>2</td>
<td>Two Phase</td>
<td>Red &amp; Blue</td>
<td>RB</td>
</tr>
<tr>
<td>3</td>
<td>Single Phase</td>
<td>Red</td>
<td>R</td>
</tr>
<tr>
<td>4</td>
<td>Neutral Connection</td>
<td>Black</td>
<td>N</td>
</tr>
<tr>
<td>5</td>
<td>Connection to Earth</td>
<td>Green</td>
<td>E</td>
</tr>
<tr>
<td>6</td>
<td>Phase Variable(such as in connection to reversible motor)</td>
<td>Gray</td>
<td>Grey or GY</td>
</tr>
</tbody>
</table>

146.4 Material

SIGNATURE OF TENDERER WITH SEAL

EMPLOYER

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Bus Bars should be of E91E grade Aluminum with a maximum current density of 0.8A/sqmm. Bus bars should be properly supported at regular intervals on SMC/DMC supports to withstand required short circuit level. Temperature rise calculations should be made and forwarded to client/consultant for necessary approvals. Adequate spacing between phases and phase to neutral to be maintained through out the length of the bus duct. 10x50Sqmm of G.I Bus should run on both sides of the Bus duct for Earthing. Proper Alignment and co-ordination regarding sequence etc. between the bus duct, Transformer, PMCC termination etc. shall be vendor’s responsibility.

1.46.5 Tests

1) ROUTINE AND TYPE TEST

Type test certificates and results as per relevant Standards (specification) for all the equipment offered under the scope of this specification shall be furnished.

2) All routine tests on all major components shall be made as per relevant specification

1.46.6 Inspection

Client/Consultant inspection of the bus duct for physical & functional checks before dispatch should be arranged by the tendered. The cost of transport and incidental expenses to be borne by the tendered. Two weeks clear notice to be given for carrying out the inspection.

1.46.7 Dielectric Tests

1) Insulation resistance of the main power circuit like between phase to phase, phase to neutral and phase to earth shall be measured.

2) Insulation resistance to earth of control wiring should be tested with 1000 V megger.

3) Insulation test shall be carried out both before and after high voltage test.

4) All current carrying parts and wiring shall be subjected to a high voltage test.

1.46.8 High Voltage Test

A high voltage test with 2.5 KV for one minute shall be applied between the phases, phase to neutral and phase to earth. Test shall be carried out on each phase in turn with the remaining phases earthed. All units racked in position and the breakers closed. Original test certificate shall be submitted along with panel.

APPROVED MAKE OF MATERIAL

SIGNATURE OF TENDERER WITH SEAL

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