Annexure „B‟

**Technical Specification**

i) **Physical** :-

The PSC Pole 200 Kg working load for use on 11KV/L.T. Line with 2/5 holes as per approved drawing and REC specification no. 15/1979 with physical and technical specification as given below:-

a) Poles should be rectangular in cross section. The top section should be 145mm x 90mm and bottom section 290mm x 90mm total length of 8 Mtrs over all weight of 360 Kg. Each pole should be provided with 18mm dia through holes suitable for 16mm Disc bolt at the following distances from the top along the minor axis in case of poles to be used on 11KV lines and along the Major axis in case of poles to be used on L.T. Lines.

i) Along the Minor axis ……… 2 holes

1st hole at 100mm from top and 2nd hole at 200mm from top. ii) Along the Major axis ………….5 holes

1st hole at 75mm from top

2nd hole at 375mm from top

3rd hole at 675mm from top

4th hole at 975mm from top

5th hole at 1275mm from top

BOTH HOLES in minor and major axis are to be provided in each and every pole.

b) Each pole shall be provided with pre-stressing steel wire of 4mm dia with guaranteed ultimate strength of 175Kg/mm2 – 12 Nos full tensioned wire and two nos. un – tensioned wires upto the ½ length of the pole (total 14 wires).

c) Each pole shall be provided for Earthing 8 SWG Wire embedded in concrete during manufacture in such a way that the ends of the wire are left projected from the pole to a length of 250mm from top and 150mm below ground level i.e. 1350mm from bottom end. The earth wire so provided shall not be allowed to come in contact with pre-stressing wires.

**The above provisions shall be made as per the drawing annexed.**

Further each pole shall be provided with 12 nos. Stirrups as per IS-5432/1966 with annealed wire of ultimate strength of 32Kg/mm2 and 4mm M.S. wire ten in nos. spread throughout the length at suitable spacing. Permissible tolerance in uprightness shall fully conform to

relevant provisions of IS-1342/1980 and IS-1678/1978 and the latest publications. Each pole shall be embossed or engraved with :-

i) Month and year of manufacture, ii) Transverse strength of pole in Kg and

ii) Maker’s name, Serial No. and Marking Symbol as detailed mentioned in the purchase order. The letter engraved shall be clear and distinct and shall be about 4.5 meter below from top.

iii) A black ring is to be painted at 1.5 Mtr. i.e. planting depth from the base/bottom of the pole.

***Technical Specification :-***

a) PSC Poles shall comply with the recommendation of REC as per REC specification

15/1979 (with latest amendment) except where the conflict specific requirement, with above REC specification, the pole shall comply with the relevant provisions made in the following IS specification.

(i) IS : 1678/1978 (ii) IS : 2985/1966 (iii) IS : 7321/1974

b) The pre-stressing steel wires including those used as un-tensioned wire should

conform to IS : 1785 (Part-1)/ 1966, IS:1785 (Part-II)/1967 or 6003/1970 in case of indented wire. The wires should be of 4mm dia with a guaranteed ultimate strength of 175Kg/mm2

c) The concrete mix shall be designed to the requirement laid down to controlled concrete in IS:1343/1980 and IS:456/1973. Cube strength at 28 days should not be less than

420Kg mm2. The maximum compressive stress in concrete at the time of transfer of pre- stressed should not exceed 0.8 times. The cube strength and concrete strength at transfer shall not be less than half the 28 days strength i.e. 420x0.5 = 210 Kg/mm2. The concrete shall be mechanically compacted by shuttering.

d) Poles shall have a factor of safety 1.0 against first crack load and not less than 2.5 against failure for loads applied at 0.6 mtr. From top with 1.6mtr. of pole inside the ground. The guaranteed minimum ultimate transverse load shall not be less than 500 Kg.

e) The ultimate moment capacity in the longitudinal direction should be at least one fourth of that in the transverse direction.

iii**) INSPECTION & TESTING:**

The Pole manufactured at your works shall be inspected/tested as per provision of IS:2985/1966 and IS: 1678 by deputed by undersigned.

Destruction test should be resorted to as per code of practice. The full lot in which the failure occurs shall be rejected.

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