TECHNICAL SPECIFICATION G.I Earth Rod (HT&LT)

#### Annexure – ‘B’

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| 1. | **SCOPE :**  This specification covers the technical details of G.I. Earthing Rod complete with the necessary fittings. |
| 2 | The earthing rod should be 2500 mm (i.e. 25 + 2400 + 75) long fabricated from 20 mm dia G.I Rod, the bottom of which to be made cut of the same rod in the shape of a cone – 75 mm long and the forged head made out of the same rod with 30 mm (dia)= 25 mm (height). The earthing arrangements should consist of clamp of size (40x5mm) which is welded to earthrod rod with drilled holes on both sides of suitable size for fixing earth wire with G.I. Bolt/nut and washers. The manufacturer shall submit drawing showing dimension of earthing rod .The raw materials, as required for manufacture, shall comply with the relevant latest Indian Standard with all amendments, additions and alternation, for obtaining the required strength. |
| 3 | The rod including the head portion should be smoothly and continuously hot dip galvanised as per relevant I.S.S. Other portion i.e. clamps, Bolts, nuts and washers should be hot dip galavanised or Zinc electro-plated. For Zinc electro plating manufacturers will have to give undertaking for satisfactory performance in the Test Certificate while offering inspection. |
| 4 | No crack should develop and deformation in the top head and/or bending of rod should not be appreciable while the rods will be driven into the ground by the application of heavy intermittent  block not less than 7.5 Kg. Hammer and in a manner as is usual for driving rods into the grounds. |
| 5 | **GUARANTEE, TESTING & INSPECTION :**  Eight copies of test certificates should be furnished along with the offer of inspection. Following tests will be carried out by our inspecting Engineers before acceptance of any materials : |
| i) | Galvanizing tests as per the relevant I.S.S. On 1% of the offered lot upto the maximum of 5 Nos. |
| ii) | Dimensional check on 1% of the offered lot upto the maximum of 10 Nos. |
| iii) | Stores test by hammering (7/8 times) the rods into the normal soil by a hammer (not less than  7.5 Kg) on 1% of the offered lot upto the maximum of 2 nos. |
| 6 | **ACCEPTANCE CRITERIES FOR 1ST SAMPLE** |
| A.  (a) | Failure in Galvanising test and dimensional check upto 1/5th will conform the lot for acceptance. But in case of dimensional check failure upto 1/5th will be restricted upto as follows : |
| i) | 1% on total length |
| ii) | 7½% on other dimension except 15 mm, 25 mm & 40 mm of small forged portion. |
| iii) | No failure will be accepted in 15 mm, 25 mm, & 40 mm of small forged portion. If the failure is beyond the above tolerance, re-sampling may be made |
| B. | If the failure in each of the above tests are more than 1/5th but less than or equal to 2/5th re-sampling in the same manner will be made for the test(s) in which failed. |
| C. | However, if the failure in any of the above tests is greater than 2/5th the whole lot will be rejected. |
| D. | For 2nd Sample :  In case of failure as (a) above the lot will conform for acceptance. |
| 7 | MARKING :  Identification marking is to be punched on the Head of the Earth Rod. |