

STANDARD TECHNICAL SPECIFICATION COVER SHEET

Specification No. : ENG-HV-2036

Specification Name : Specification for GI Coil Earthing

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Initiator		HOG (Plant Engineering)	
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1.0 SCOPE

The scope of this document is to give design & constructional features, inspection, supply and transportation guidelines for GI Coil Earthing for TPCODL/TPNODL/TPWODL/TPSODL.

2.0 APPLICABLE STANDARDS

The equipment covered by this specification shall unless otherwise stated, be designed, manufactured and tested in accordance with latest editions of the following standards/IEC and shall conform to the regulations of local statutory authorities.

- a) IS: 280 - Mild steel wire for general engineering purposes.
- b) IS: 4826 - Specification for hot-dipped galvanized coatings on round steel wires.
- c) IS: 7887 - Mild steel wire rods for general engineering purposes.
- d) IS: 2629 - Recommended practice for hot-dip galvanizing of iron and steel
- e) IS: 1521 - Method for tensile testing for steel wires
- f) IS: 1755 - Method for wrapping testing for wire
- g) IS: 6745 - Methods for determination of mass of zinc coating on zinc coated iron and steel

3.0 CLIMATIC CONDITIONS:

1	Maximum ambient temperature	50 deg C
2	Max. Daily average ambient temp	35 deg C
3	Min Ambient Temperature	0 deg C
4	Maximum Humidity	95%
5	Average Annual Rainfall	1500 mm
6	Average No. of rainy days per annum	120
7	Altitude above MSL not exceeding	1000m
8	Wind Speed	300 Km/hr
9	Earthquakes of an intensity in horizontal direction	equivalent to seismic acceleration of 0.3g
10	Earthquakes of an intensity in vertical direction	equivalent to seismic acceleration of 0.15g (g being acceleration due to gravity)

TPCODL/TPNODL/TPSODL/TPWODL service area has heavy saline conditions along the coast and High cyclonic Intensity winds with speed upto 300 Kmph. The atmosphere is generally laden with mild acid and dust in suspension during the dry months and is subjected to fog in cold months.

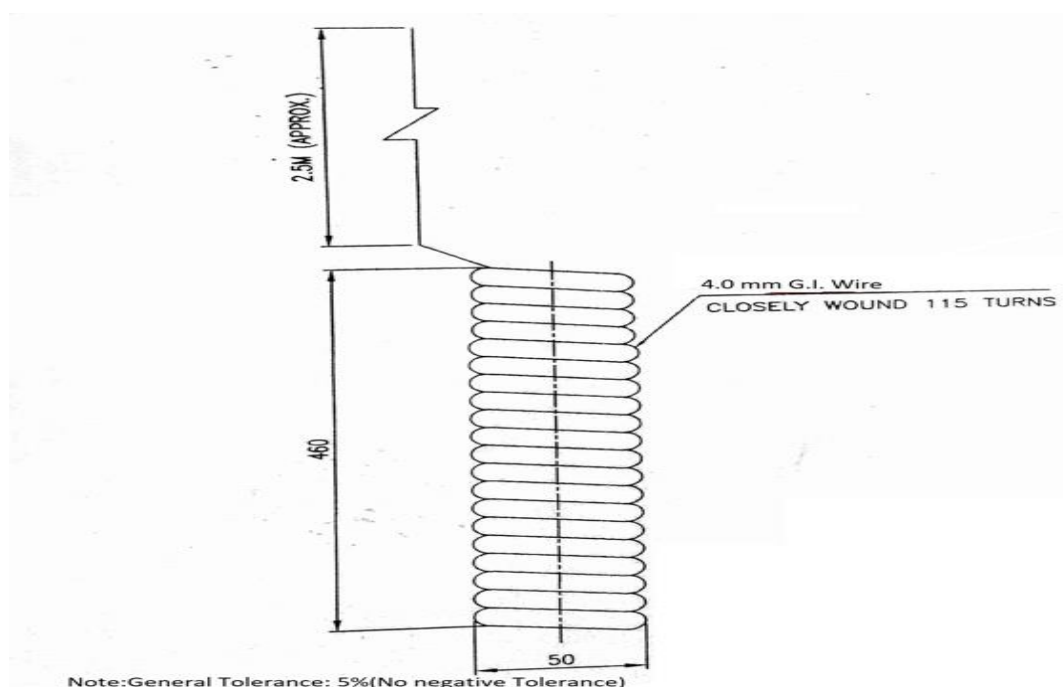
4.0 GENERAL CONSTRUCTION:

The material shall be-

- Heavy class as per IS- 1239/IS 1161-1979.
- Galvanizing to be done after fabrication as per IS: 4826
- The design shall be suitable for the climatic condition stated above.
- Tolerance in Dimensions & Weight should be $\pm 2.5\%$ unless otherwise specified
- Dimensional tolerance shall be as per IS 1852-1985
- Zinc electroplated/painted material will not be accepted, should be properly galvanized.
- No Rusting is acceptable.

5.0 GENERAL TECHNICAL REQUIREMENTS:

Sr. No.	DESCRIPTION	REQUIREMENT
1	Material of earthing coil	GI wire
2	Confirming Standard	IS 280, IS 7887, IS 4826
3	Nominal diameter of Wire	4.00mm with tolerance $\pm 2.5\%$
4	No. of Turns	115 Nos. (Min)
5	External dia of Coil	50mm (Min)
6	Length of Coil	460mm / 450mm (Min)
7	Free Length of G.I wire of earthing coil	2500mm
8	Mass of Zinc Coating	280gm/Sq.mm (Before Coiling) & 266gm/Sq. mm (After Coiling)
9	Total Weight of Coil	1.850 Kgs. (Min)
10	Tolerance in Dimensions & Weight	$\pm 2.5\%$



6.0 MARKING:

The unit shall be appropriately marked as "**PROPERTY OF TPCODL/TPNODL/TPWODL/TPSODL**" and with the name of the vendor and year of manufacturing at suitable location.

7.0 TESTS

All routine, acceptance & type tests shall be carried out in accordance with the relevant IS/IEC.

All routine/acceptance tests shall be witnessed by the purchaser/his authorized representative. All components shall also be type tested as per the relevant standards.

Tests	IS to be referred
Visual test	As a routine test
Dimensional tests	As per the drawing
Tensile test	IS 280
Wrapping test	IS 280
Hot dip galvanizing	IS 4826
Determination of mass of zinc coating on zinc coated iron and steel	IS 4826

8.0 TYPE TEST CERTIFICATE

The bidder shall furnish the type test certificates of the Specification for GI Coil Earthing for the tests as mentioned above as per the corresponding standards. All the tests shall be conducted at CPRI/ERDA/NABL accredited as per the relevant standards. Type test should have been conducted during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports i.e. any test report not acceptable or any/all type tests (including additional type tests, if any) not carried out, same shall be carried out without any cost implication to TPCODL/TPNODL/TPWODL/TPSODL.

9.0 PRE DISPATCH INSPECTION

Equipment shall be subjected to inspection by a duly authorized representative of TPCODL/TPNODL/TPWODL/TPSODL. Inspection may be made at any stage of manufacture at the discretion of the purchaser and the equipment, if found unsatisfactory as to workmanship or material, the same is liable to rejection. Bidder shall grant free access to the places of manufacture to TPCODL/TPNODL/TPWODL/TPSODL's representatives at all times when the work is in progress. Inspection by TPCODL/TPNODL/TPWODL/TPSODL or its authorized representatives shall not relieve the bidder of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by TPCODL/TPNODL/TPWODL/TPSODL. Following documents shall be sent along with material.

- Test reports
- MDCC issued by TPCODL/TPNODL/TPWODL/TPSODL
- Invoice in duplicate
- Packing list
- Drawings & catalogue
- Guarantee / Warrantee card
- Delivery Challan
- Other Documents (as applicable)

10.0 INSPECTION AFTER RECEIPT AT STORES

The material received at TPCODL/TPNODL/TPWODL/TPSODL, Berhampur, Odisha store will be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre-dispatch inspection and one copy of the report shall be sent to Project Engineering department.

11.0 GUARANTEE

Bidder shall stand guarantee towards design, materials, workmanship & quality of process / manufacturing of items under this contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the Company up to a period of at least 12 months from the date of commissioning or 24 months from the date of last supplies made under the contract whichever is later. In the event any defect is found by the Company up to a period of 12 months from the date of commissioning or 24 months from the date of last supplies made under the contract, whichever is earlier, supplier shall be liable to undertake to replace/rectify such defects at his own costs.

12.0 PACKING

Bidder shall ensure that all the equipment covered under this specification shall be prepared for rail/road transport in a manner so as to protect the equipment from damage in transit.

13.0 TENDER SAMPLE

Not Applicable.

14.0 QUALITY CONTROL

The bidder shall submit with the offer Quality assurance plan indicating the various stages of inspection, the tests and checks which will be carried out on the material of construction, components during manufacture and bought out items and fully assembled component and equipment after finishing. As part of the plan, a schedule for stage and final inspection within the parameters of the delivery schedule shall be furnished. TPCODL/TPNODL/TPWODL/TPSODL's engineer or its nominated representative shall have free access to the manufacturer's/sub-supplier's works to carry out inspections.

15.0 MINIMUM TESTING FACILITIES

Bidder shall have adequate in house testing facilities for carrying out all routine tests & acceptance tests as per relevant International / Indian standards

16.0 MANUFACTURING ACTIVITIES

The successful bidder will have to submit the bar chart for various manufacturing activities clearly elaborating each stage, with quantity. This bar chart should be in line with the Quality assurance plan submitted with the offer. This bar chart will have to be submitted within 15 days from the release of the order.

17.0 SPARES, ACCESSORIES AND TOOLS

NA

18.0 DRAWINGS

Following drawings & documents shall be prepared based on Purchaser's specifications and statutory requirements with complete BOM and shall be submitted with the bid:

- a) Completely filled-in Technical Parameters (refer Cl. 5)
- b) General description of the equipment and all components including brochures
- c) General arrangement drawings
- d) Type Test Certificates.
- e) Experience List
- f) Manufacturing schedule and test schedule after the contract, four (4) copies of the drawings, drawn to scale, describing the equipment in detail shall be forwarded for approval and shall subsequently provide four (4) complete sets of final drawings, one of which shall be auto positive suitable for reproduction, before the dispatch of the equipment. Soft copy (Compact Disk CD) of all the drawing, GTP, test certificates shall be submitted after the final approval of the same to the purchaser.

Following Drawings/Documents shall be submitted after the award of the contract:
 Drawings/documents to be submitted after the award of the contract:

S.No	Description	For Approval	For Review Information	Final Submission
1	Technical Parameters	√		√
2	General Arrangement drawings	√		√
3	Bill Of Material	√		√
4	Instruction for Use		√	√
5	QA & QC Plan	√	√	√
6	Routine, Acceptance & Type Test Certificates	√	√	√

All the documents & drawings shall be in English language.

19.0 SCHEDULE OF DEVIATIONS

SCHEDULE OF DEVIATIONS

(TO BE ENCLOSED WITH TECHNICAL BID)

All deviations from this specification shall be set out by the Bidders, clause by Clause in this schedule. Unless specifically mentioned in this Schedule, the tender shall be deemed to confirm the purchaser's specifications:

S.No	Clause No.	Details of deviation with justifications

We confirm that there are no deviations apart from those detailed above.

Seal of the Company:

Signature
Designation