



सत्यमेव जयते

भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS

सं टीआईएसटीआर.....

No. TI/STR/.....

**Schedule of Technical Requirements for Approval of Vendors for Supply of
 Rail Earth Clamp as per RDSO's Specification No.**

अनुमोदन द्वारा/Approved by	हस्ताक्षर/Signature
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1.0 SCOPE:

This Schedule of Technical Requirement (STR) is to assess the manufacturing capability of the vendors for new registration/approval of Rail Earth Clamp.

2.0 GENERAL INFRASTRUCTURE & MANUFACTURING DETAILS:

Manufacturer should have adequate covered accommodation for Storing raw material finished items awaiting dispatch and arranging Inspection. Manufacturer should have the system to ensure that the final product conforms to the RDSO Specification.

The "Make in India" Policy of Government of India shall be applicable.

2.1 MACHINERY & PLANT:

Following machinery and plant of suitable capacity should be available.

SN	For Forging if required during manufacturing process	For Casting if required during manufacturing process
i	Drop hammer	Induction Furnace (With Suitable Temperature Control Device)
ii	Forging screw press	Galvanization Facility
iii	Power press	Magnesium Treatment Ladle
iv	Oil fired furnace	Hand Shanks (Small ladles)
v	Bench grinder of various capacities	Metallic Die
vi	Hacksaw machine	Patterns for sand casting
vii	Spark Erosion Machine	Drilling machine
viii	Milling Machine	Lathe machine
ix	Shaping machine	Milling Machine
x	Welding set	Shaping machine
xi	Drilling machine	Shot blasting Machine
xii	Lathe machine	Threading machine
xiii	Normalizing furnace	
xiv	Threading machine	
xv	Furnace for hardening and tempering	
xvi	Shot blasting Machine	
xvii	Galvanization Facility	

2.2 Manufacturer should have the facility for repair of the dies/patterns in use to get precise dimension.

2.3 Manufacturer should have adequate facility to test the raw materials as well as the finished product.

2.4 The manufacturer of REC is responsible for the quality and after sale service of the supplied REC. The manufacturer of REC shall attend to the complaints immediately and implement remedial action over Indian Railways.

3.0 TESTING FACILITES:

3.1 Following Machinery and plant are required for testing:

SN	Description
i	Hardness Testing Machine
ii	Spectrometer or Chemical laboratory for Chemical composition.
iii	Electromagnetic crack detecting machine/Dye Penetration Testing Facility
iv	UTM machine
v	Measuring instrument like vernier caliper, screw gauge: thread gauge, Go & No-Go Gauge etc.
vi	Alco meter to measure the thickness of Galvanization.
Vii	Metallurgical Microscope and Micro polishing machine.
Viii	For fasteners: facilities for test on fasteners shall be conducted as per RDSO's specification No. TI/SPC/OHE/Fasteners/0120 or latest
ix	Milliohm meter for measurement of contact resistance

3.2 If required facility is not available with firm, tests mentioned at sr. no. 6, 10, 11 & 13 of para 10.9 of FRS of Rail Earth Clamp Specification no. TI/OHE/2024/REC.....can be conducted from a NABL accredited laboratory.

4.1 QUALITY CONTROL REQUIREMENTS:

4.2 The firm should have acquired ISO 9001: 2015 certification for the product for which an approval is sought and the product should be broadly covered in the scope of the certification for manufacture and supply.

4.3 Quality manual of the firm for ISO 9001: 2015 should clearly indicate at any stage the control over manufacturing and testing of the said product.

4.4 A system of easy traceability of the product from raw material stage to finished product stage should be available.

4.5 The Quality Assurance Plan (QAP) of the product prepared as per RDSO ISO guidelines should be available.

4.6 The assembly of the REC shall be done by well trained staff under the Supervision of qualified staff with experience in the field.

4.7 System should exist for documentation of the following:

4.7.1 Incoming raw material with Test Certificate (TC) reference of supplier as well as internal test and audit checking from outside agency & product data sheet, wherever required.

4.7.2 Ensure that details regarding the test results of various stages in production and routine testing are available.

4.7.3 Ensure that a system exists for calibration of testing & measuring equipment and record is maintained.

4.7.4 Calibration of test equipments: All the test equipments shall be periodically checked and calibrated. The frequency of calibration shall be once in a year.

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