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Document Title : STR for Code of practice for Earthing & Bonding system for Signalling Equipments			

Government of India -- Ministry of Railways

Schedule of Technical Requirement (STR)

For

Code of Practice for Earthing & Bonding System for Signalling Equipments

Signal Directorate

Research Designs & Standards Organisation

Manak Nagar, Lucknow - 226011

Prepared by : SSE/signal	Checked by : DD/Signal	Issued by: Director/Signal
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SCOPE

The Schedule of Technical Requirement No. SIQ 0115 covers the norms for Machinery & Plants required for production, testing equipment for quality assurance and infrastructure for manufacturing of Earthing & Bonding Components for Railway Signaling applications. Vendor shall also comply other relevant laws of the country and quality norms issued by RDSO time to time.

Code of Practice for Earthing & Bonding System for Signalling equipments

Specification for Earthing & Bonding System -

SN	Description	Specification No.
1	Code of Practice for Earthing & Bonding system for Signalling equipments	RDSO/SPN/197, Version 1.0

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I Essential machinery and plants required for production

SN	Description
1	Cutting Machine
2	Hydraulic or mechanical Stamping / Numbering M/c
3	Grinding Machine
4	Lathe Machine
5	Power Hacksaw
6	Effluent Treatment Plant (ETP) Plant
7	Plating Plant length minimum 3 mts suitable for 3mts electrode
8	Buffing M/c
9	Bench Vice
10	Hammer
11	Power press
12	Graphite moulds for each type of exothermic connections
13	Mixing Plant
14	Weighing M/c 0-100Kg, res:- 5gms
15	Sealing M/c
16	Sieve M/c 100 mesh at least.

II Essential testing equipments required for Quality Assurance

SN	Description
1	Measuring Tape (5 m)
2	Digital vernier caliper (0 to 150 mm ,Least count 0.02mm)
3	Digital Alcometer / Quote meter(0 to 600 micron)
4	Digital micro ohm meter (0 micro ohm – 20K ohm, Least count 1 micro ohm)
5	Digital Earth Tester (0 – 10 Ohm & 0 – 1000 Ohm)
6	Tensile testing M/c ,0-1000N/mm ²
7	Test Jig for compression test of exothermic joints
8	Standard calibrated resistance Box 10 Ω and 1000 Ω
9	Millar box for resistivity measurement
10.	Adhesion test Jig
11.	Jig for rod bending test.

Note:

1. All the essential testing equipment must be calibrated once in a year by NABL accredited Lab. In house calibration wherever feasible, may be done with specific permission of Dir/QA/S&T.
2. Raw materials (including high tensile low carbon steel circular rods) may be outsourced.
3. Outsourcing shall be from ISO approved firm and shall be specified in QAP.

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