
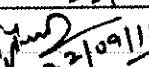
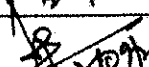



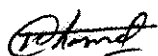
Schedule of Infrastructural Requirements For Stainless Steel Battery Box Complete

Specification No. MDST 141, Rev-01

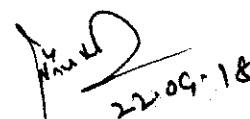
Date: 22.09.2018

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Name	Designation	Signature	Date	Level
Ramesh Chandra	SSE/UF/Design	 22.09.18	22.09.2018	Prepared
Pardeep Luthra	ADE/Shell & Bogie Design	 22/09/18	22.09.2018	Agreed
Kamal Kumar	Dy CME/D-1	 22/09/2018	22.09.2018	Reviewed
Manish Bhimte	CDE	 22.9.18	22.09.2018	Approved



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1. General:

This specification defines the technical/infrastructure requirements for manufacture, testing and supply of stainless steel battery box complete.

2. Eligibility Criteria:

- 2.1. The tenderer must submit clause-wise comments on the specification. In absence of clause-wise comments, offers shall be deemed as incomplete and may not be considered.
- 2.2. The manufacturer shall have following infrastructure facilities in-house for manufacture and testing of stainless steel battery box complete:
 - 2.2.1. Separate covered area for manufacturing only stainless steel to avoid iron contaminations and also having adequate space underneath for storage of raw materials e.g. sheets, corner, squares, rounds etc.
 - 2.2.2. CNC laser profile-cutting machine in working order or Tie-up arrangement for CNC laser profile-cutting machine is acceptable.
 - 2.2.3. At least two MIG welding sets & suitable shielding media.
 - 2.2.4. Shearing machine of suitable capacity.
 - 2.2.5. Press brake minimum 100 ton capacity.
 - 2.2.6. Machining facilities such as drilling machine, hand grinders, lath machine etc.
 - 2.2.7. Sand/shot blasting facilities.
 - 2.2.8. Painting booth facilities.
 - 2.2.9. At least one Over-head/Gantry crane or fork lifter of minimum 1ton capacity or suitable material handling equipment.
 - 2.2.10. Calibrated digital Vernier Calipers of size 300 mm.
 - 2.2.11. Calibrated micrometers - Ranging from 0 to 50 mm.
 - 2.2.12. Calibrated welding gauges.
 - 2.2.13. Calibrated measuring steel tape 5 meter length.
- 2.3. The manufacturer shall have in house/tie-up arrangement for following tests with NABL certified labs:
 - 2.3.1. The firm shall be ready for carrying out chemical and mechanical analysis of the material from NABL certified Lab at their own expense as and when required.
- 2.4. The manufacturer shall be an valid ISO-9001-2008 or latest certified company.

3. Raw material:

- 3.1. Chemical and Mechanical properties of steel sheets, to be used, should conform to specification mentioned in the drawings.
- 3.2. All records of physical and chemical tests shall be kept and made available to Inspecting Agency, if required. All plates to be taken up for manufacture shall

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be visually checked for surface defects such as cracks, dents, pitting, bend, rust, scales etc. and they shall be free from all these defects.

- 4. Fixtures and Manipulators:** The manufacturer shall prepare at least following fixtures for fabrications and manipulator for down hand welding for different stages.

- 4.1. Battery box frame and sub assembly for tack welding.
- 4.2. Battery box complete full welding fixture having rotating facility for down hand welding.

- 5. Sand/Shot Blasting:** The entire battery box complete shall be subjected to sand/shot blasting for cleaning of rust, scales, spatters etc. before painting of these assemblies.

- 6. Primer/Painting:** Immediately after sand/shot blasting, the battery box complete shall be painted as specified in the drawings.

- 7. Identification Marking:** Assembly shall be stamped with an easily visible identification indicating the serial number, year of manufacture and manufacturer's name to facilitate identification/correlation with the inspection/ test results.

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