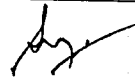
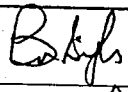
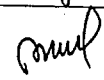
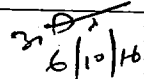


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Name	Designation	Signature	Date	Level
Suraj Singh	SSE/Design		06.10.2016	Prepared
Balwant Singh	SME/BD		06.10.2016	Agreed
Lalit Kishore	Dy. CME/D-I		06.10.2016	Reviewed
A.K. Kathpal	CDE	 23/10/16	06.10.2016	Approved


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1. General:

This specification defines the schedule of requirement of infrastructure for manufacturing and testing of end construction for conventional coaches.

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.

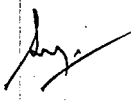
2.2. The manufacturer should have following in-house infrastructure facilities for manufacture and inspection of end construction for conventional coaches:

- 2.2.1. Covered area with adequate space underneath for storage of raw materials. The covered area should have display board showing different colour shades nominated to different grades of steel to avoid mix up of materials.
- 2.2.2. Minimum one CNC plasma profile cutting machine.
- 2.2.3. Minimum two MAG welding sets.
- 2.2.4. Shearing machine of suitable capacity.
- 2.2.5. Machining facilities comprising of drilling, grinding, pipe threading etc of suitable capacity and make.
- 2.2.6. At least one fork-lifter or one over head crane of 1 tonne (Min.) capacity.
- 2.2.7. At least one press brake of minimum 300 T capacity.
- 2.2.8. Shot/Sand blasting facility.
- 2.2.9. Primer and painting facilities.
- 2.2.10. Digital vernier calliper of size 300 mm.
- 2.2.11. Thread gauge.
- 2.2.12. Welding gauge.

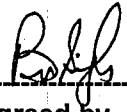
2.3. The manufacturer shall have in-house or tie-up arrangement for following tests with NABL certified labs:

- 2.3.1. The firm shall be ready for carrying out chemical and mechanical test of end construction from NABL certified Lab at their own expense as and when required.

2.4. The manufacturer shall be an ISO-9001-2000 certified company.



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2.5. Raw material:

- 2.5.1. Chemical and Mechanical properties of steel plates, to be used, shall conform to specification mentioned in the drawings.
- 2.5.2. All records of physical, chemical shall be kept and made available to Inspecting Agency, if required. All plates to be taken up for manufacture shall be visually checked for surface defects such as cracks, dents, pitting, bend, rust, scales etc. and they shall be free from all these defects.

2.6. Fixtures and Manipulators:

The manufacturer shall prepare fixtures for sub-assembly and assembly before start of manufacture.

2.7. Welding requirements:

- 2.7.1. **Welder qualifications:** Qualified welder as per EN-287-1 shall be employed for fabrication.

2.8. Shot Blasting:

End wall assembly should be shot blasted for cleaning of rust, scales, spatters etc. before painting.

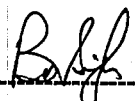
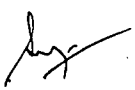
2.9. Primer / Painting:

Immediately after shot blasting, the end wall assembly should be coated with primer as defined in the specification or drawings.

2.10. Identification Marking:

Each end wall shall be punched with manufacturer's identification mark, serial number and date of manufacture to facilitate identification/correlation with the inspection/ test results.

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