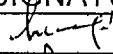
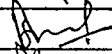
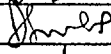



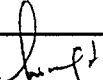
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SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR WALL PROTECTOR DRAWING. NO. CC63600	MDST: 45 Rev: NIL PAGE 1 OF 4
		Dated 31.01.2006

## SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR WALL PROTECTOR

NAME	DESIGNATION	SIGNATURE	DATE	LEVEL
Harish Kumar	SSE/VD		31.1.06	Prepared
Joginder Singh	ADE/VD		1.2.06	Agreed
Amitabh Sinha	Dy CME/TOT		4.2.06	Reviewed
S K Aggarwal	CDE		6/2/06	Approved

Issue/Rev	Details of Changes	Date

  
Prepared By

  
Agreed By

SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR WALL PROTECTOR DRAWING. NO. CC63600	MDST: 45 Rev: NIL PAGE 2 OF 4
		Dated 31.01.2006

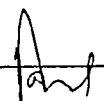
**1.0 REQUIREMENTS :** This schedule is applicable for wall protector to drawing no. CC63600. The vendors seeking approval shall comply with all the requirements mentioned below :

**2.0 GENERAL & MANUFACTURING FACILITIES**

- 2.1 Covered area with adequate space underneath for storage of raw. 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 Minimum 1 No of shearing machine of suitable capacity and of standard makes should be available.
- 2.3 Adequate machining facilities comprising of drilling, etc. of suitable capacities and standard makes should be available.
- 2.4 Atleast one number each of TIG & spot welding machine/ riveting of suitable capacity and standard make shall be available.
- 2.5 Separate areas for stainless steel and mild steel should demarcated to avoid contamination.
- 2.6 Adequate Nos. of hand grinders for removal of fins & burrs shall be available.
- 2.7 The firm shall have atleast one power press of suitable capacity along-with punch and dies for component forming.
- 2.8 The raw material should be procured from authorized distributor of original manufacturer of steel and firm should procure material with test certificate from primary manufacturer
- 2.9 The firm shall comply with IS:822 regarding selection of weld wire, storage of consumables, calibration of welding equipment , training of welder, testing of welding and remedies for welding defects.
- 2.10 The welder shall have a minimum of 2 years experience of the same type of welding.
- 2.11 The fabricator shall have adequate fabrication and process capability to obtain all the tolerances and geometrical tolerances and shall have arrangement of jig/fixture/clamping device for main assembly & sub-assembly work.
- 2.12 The firm shall have suitable in-house facility for buffing and polishing the components

**3.0 TESTING FACILITIES**

  
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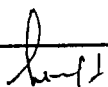
  
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
SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR WALL PROTECTOR DRAWING. NO. CC63600	MDST: 45 Rev: NIL PAGE 3 OF 4
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- 3.1 **Chemical Lab:** The firm should have permanent arrangement with NABL certified Lab or a reputed steel making company for arranging the spectro analysis of the material.
- 3.2 **Physical Testing Lab:** The firm must possess a well-equipped physical lab with following facilities:
- Universal Testing machine of 40t capacity with load/ deflection plotting arrangement to conduct UTS, Yield strength .
- 3.3 **Other Testing Facilities:** The firm shall possess the following:
- The firm shall have adequate facilities for preparation of test sample. Facilities like machining, grinding, polishing etc. should be available in house.
  - Adequate number of fine punches for stamping marking particulars on finished components.
  - Adequate numbers of measuring instruments such as:
    - Digital Vernier Calipers - 0 mm to 300 mm
    - Measuring scales – 1 meter
    - Digital inside & outside Micrometers - Ranging from 0 to 150 mm
    - GO & NO-GO gauges.
    - Profile gauges
    - Set of radius gauge.

#### 4.0. QUALITY CONTROL REQUIREMENTS

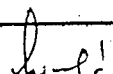
- 4.1 There should be a system to ensure the traceability of the product from raw material stage to finished product stage. This system should also facilitate to identify the raw material composition from the finish product stage.
- 4.2 The firm shall ensure that there is a QAP for the product detailing various aspects: -
- QA Organisational Chart
  - Flow Process Chart
  - Stage inspection details
  - Various parameters and to ensure control over them
- 4.3 There should be at least one full time technologist having a minimum bachelor's degree in relevant field & 5 years experience or a person with diploma in relevant field with 12 years experience.
- 4.4 The firm should have acquired ISO: 9000 series certification and the product for which an approval is sought should be broadly covered in the scope of the certification for manufacture and supply.

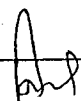
  
Prepared By

  
Agreed By

SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR WALL PROTECTOR DRAWING. NO. CC63600	MDST: 45 Rev: NIL PAGE 4 OF 4
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- 4.5 The Quality manual of the firm for ISO: 9000 should clearly indicate at any stage the control over manufacturing and testing of the said railway product.
- 4.6 The firm shall ensure that proper analysis is being done on monthly basis to study the rejection at various internal stages and it is documented.
- 4.7 The firm shall ensure that all the relevant specifications, IS standards are available with them.

  
Prepared By

  
Agreed By

