

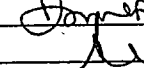
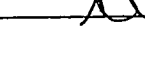


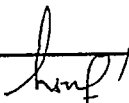
SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING OF UIC RUBBER VESTIBULE TO SPECIFICATION NO. C-8812	MDST:01 Rev: NIL PAGE 1 OF 4
		Dated 14.09.2005

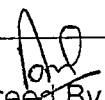
UIC RUBBER VESTIBULE

MDST:01 Rev:NIL

NAME	DESIGNATION	SIGNATURE	DATE	LEVEL
Harish Kumar	SSE/TOT		14/9/05	Prepared
Joginder Singh	ADE/VD		14/9/05	Agreed
Amitabh Sinha	Dy.CME/TOT		15/9/05	Reviewed
S.K. Aggarwal	CDE		16/9/05	Approved

Issue/Rev	Details of Changes	Date


Prepared By


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SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING OF UIC RUBBER VESTIBULE TO SPECIFICATION NO. C-8812	MDST:01 Rev: NIL PAGE 2 OF 4 Dated 14.09.2005
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1. SCOPE

1.1 This schedule covers the infrastructural requirements for manufacture & testing for UIC rubber vestibules for passenger coaches to RDSO specification C-8812.

2. REQUIREMENTS

2.1 The vendor seeking approval shall comply with the under mentioned requirements from Para 3 to 6.

3. GENERAL AND MANUFACTURING FACILITIES

3.1 Manufacturers should have adequate storage space for raw material and finished products. Storage of the raw material as well as finished product should be in covered area.

3.2 The Weighing facilities for measuring various raw materials constituents should be available. The following facilities are required:

- Electronic weighing balance of minimum 5 kgs capacity.
- Mechanical spring balance of the capacity of minimum 50 kgs.

3.3 It should be ensured the weighing machine are calibrated regularly and the frequency of the calibration is specified

3.4 Manufacturer should have a suitable capacity of mixing mill for mixing purpose.

3.5 Manufacturer should have a 2m x 1m moulding press. The press should be fully equipped with temperature controller, digital temperature indicator and timers.

3.6 Suitably designed dies and moulds for the product (min. 2 no's) should be available.

3.7 Manufacturer should have a minimum infrastructure for maintenance and polishing of dies and moulds.

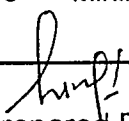
3.8 Manufacturer shall mould the rubber vestibule flange with rainwater flange in single mould.

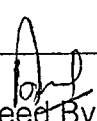
4. TESTING FACILITIES:

4.1 Tensile testing machine capable to read the load and elongation as per the requirement of the product should be available.

4.2 Minimum two number shore hardness tester with test pieces should be available.

4.3 Minimum two numbers air ovens should be available to facilitate testing in accordance


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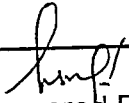
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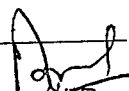
with para 4.2 & 6.2 of IS: 3400 part-X.

- 4.4 Minimum one number muffle furnace should be available.
- 4.5 At least one number specific gravity testing apparatus should be available.
- 4.6 Below mentioned instruments in adequate number should be available :
- Micrometers
 - Dial Gauges
 - Vernier caliper
 - Go-No-go gauges for all the important dimensions for a specific product.
- 4.7 Minimum one number chemical balance and a crucible for measuring ash content should be available.
- 4.8 Suitable facilities for cutting the test specimen from the product should be available.
- 4.9 The firm should have facilities for conducting flexibility test in accordance with specification no. C-8812.
- 4.10 Manufacturer should have facilities for conducting test for abrasion in accordance with specification C-8812.
- 4.11 Manufacturer should have an arrangement with a reputed laboratory for conducting test for resistance to ozone.
- 4.12 Manufacturer should have facilities for conducting test for resistance to spread of flame in accordance with specification C-8812.

5. QUALITY CONTROL REQUIREMENTS

- 5.1 The manufacturer shall have their own valid ISO9000 series certification for the product for which approval is sought.
- 5.2 There should be a system to ensure the traceability of the product from raw material stage to finished product stage.
- 5.3 The vendors seeking approval must ensure that their QAP for the product details various aspects as follows :
- Organisation chart
 - Process flow chart
 - Stage inspection details from raw material stage to finish product stage.
 - Various parameters to be checked and level of acceptance of such parameters and method to ensure control over their-in.
 - Disposal system of rejected raw materials and product.


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5.4 There shall be atleast one graduate degree holder in relevant technology and with field experience of atleast 5 years in rubber technology or a diploma holder with experience of 10 years in rubber technology for regular production and quality control.

5.5 Latest version of all relevant specification, IS, ASTM and RDSO standards and drawings with latest alteration should be available with the firm.

5.6 It should be ensured that proper analysis is being done on monthly basis to study the rejection at various stages of production and the same should be documented.

6. DOCUMENTATION

Firm shall maintain following documents/records:

6.1 A well documented Quality Plan.

6.2 Incoming raw material register should be checked as per approved QAP.

6.3 Maintenance of stock register for use and balance of raw materials, bought out items etc.

6.4 Stage inspection results including finished product results, as per approved QAP.

6.5 Records of internal rejection and its analysis vis-a-vis action plan.

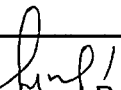
6.6 Records of final product inspection by external agencies (like RDSO), NCR and case analysis as well as action taken thereof.

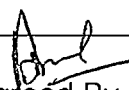
6.7 Records for maintenance of dies/moulds.

6.8 Ensure that proper system is available for dealing with customer complaints.

7. TRAINING

7.1 Training needs should be identified for all concerned officials and regular training shall be organised and imparted on maintenance of machines, quality assurance, safety parameters etc.


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