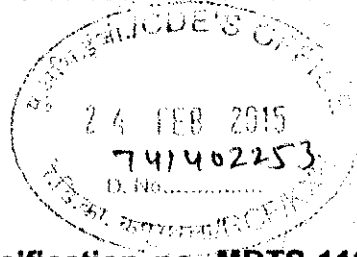


# RAIL COACH FACTORY KAPURTHALA

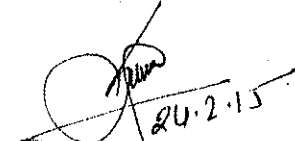
MD22141



Dated : 24.02.2015

**Sub: Issue of specification no. MDTs-116 Rev-'05', Technical Specification for Self Adhesive Insulating Material**

Please find enclosed a copy of specification no. MDTs-116 Rev-'05', Self Adhesive Insulating Material, for information and necessary action at your end.

  
(Suraj Prakash)  
Dy CME/D-1

CQM, CPLE, CWE (FUR), CMM/HSQ, CMM/TKJ, Dy. CMM/Fur/LHB, Dy CCMT, DY.CPLE-III

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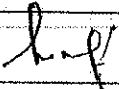


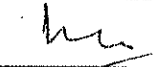
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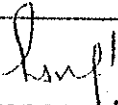
CDE

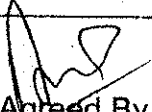
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Rail Coach Factory, Kapurthala-144601

SPECIFICATION	TECHNICAL SPECIFICATION FOR SELF ADHESIVE INSULATING MATERIAL	MDTS:116 Rev:05 PAGE 1 OF 5 Dated 18/02/2015

NAME	DESIGNATION	SIGNATURE	DATE	LEVEL
Harish Kumar	SSE/Dev		18/2/15	Prepared
Joginder Singh	SME/D-1		29/01/2015	Agreed
Suraj Prakash	Dy.CME/D1		20.2.15	Reviewed
Parmanand Singh	CDE		20/2/15	Approved

Issue/Rev	Details of Changes	Date
Rev01	1.0 Specification modified.	30/11/2004
Rev02	1.0 Para's 4.2 & 8.0 added 2.0 Para's 4.1 & 7.0 modified	05/07/2010
Rev-03	Para 8.0 "Following is known indigenous approved source for adhesive tape :M/s PRS Permaceel Private Limited, 215,Suneja Tower-1 Plot No.7, District Centre , Janak Puri, New Delhi - 110 058 " , deleted.	22/07/2010
Rev-04	1 In para 3.2, color ' Grey' added, in para 3.3, "embossed" deleted and in para 4.2, " without releasing paper" added 2 Para's 2.2 , 8 & 9 added	17-06-2011
Rev-05	1 Tensile strength, elongation at break and tear strength added. 2 Para 4.2, fire retardant characteristic of adhesive insulation tape deleted.	18-02-2015

  
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SPECIFICATION	TECHNICAL SPECIFICATION FOR SELF ADHESIVE INSULATING MATERIAL	MDTS:116 Rev:05 PAGE 2 OF 5 Dated 18/02/2015

### 1.0 Scope:

- 1.1 This specification covers the general and technical requirements of self-adhesive insulating material with self-adhesive film to be used in Railway passenger coaches.

### 2.0 Functional requirements:

- 2.1 The material shall be used for cladding air conditioning ducts in order to impart acoustic and thermal insulation to the duct thereby maximizing output efficiency of air conditioning equipment's and operate between temperature of -40°C to 150°C.
- 2.2 While quoting, the supplier shall submit the following details:
- Clause-wise comments on the specification.
  - Deviation statements with respect to specification, if any.
  - Credentials and performance of the original supplier.
  - Performance and areas of usage of offered material in Railway Passenger Coaches or aircraft passenger applications.
  - The tender shall submit test certificate from Reputed Test House at the time of offer for para 3.8, 3.9, 3.13.1 & 4.2 .
  - The supplier shall submit two samples of insulation foam of size 150x150mm (at least) at the time of submitting of offer for visual evaluation.

### 3.0 Requirements of foam:

SN	Description	Requirements
3.1	Material	<ul style="list-style-type: none"> <li>• Duroplastic elastified foam material made from melamine.</li> <li>• Shall not contain any glass mineral fibers</li> <li>• Physiologically safe</li> </ul>
3.2	Colour	White or grey
3.3	Surface	Air permeable, slightly densified.
3.4	Density	Max. 12 Kg/m <sup>3</sup>
3.5	Thickness	10, 20 mm or as specified
3.6	Standard dimensions	1250x1250 mm or as specified
3.7	Temperature range	-40°C to 150°C longtime working exposure Short time exposure up to +200 ° C
3.8	Thermal Conductivity	0.035 W/m <sup>2</sup> K at 10°C as per DIN-52612

  
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SPECIFICATION	TECHNICAL SPECIFICATION FOR SELF ADHESIVE INSULATING MATERIAL	MDTS:116 Rev:05 PAGE 3 OF 5 Dated 18/02/2015

3.9	Noise Reduction coefficient	As per Annexure-A
3.10	Tensile strength	90 kPa ( Minimum) as per ISO-1798/DIN-53571
3.11	Elongation at break	10% ( Minimum) as per ISO-1798/DIN-53571
3.12	Tear strength	0.09kg kg/cm ( Minimum) as per ASTM D - 3574/ ISO-8067

### 3.13 Fire retardant Characteristics : :

3.13.1	DIN-5510 (Pt-2)	Flammability class	S4
		Smoke density class	SR2
		Dropping class	ST2
	DIN-4102	B1 grade	

#### 3.13.2 The material should also pass the following test:

A test specimen of the material measuring about 150x150 mm shall be subjected to the luminous flame from a Bunsen burner of 10-mm ID. The specimen shall be held with the longitudinal axis at an angle of 45 ° to the horizontal. The flame height shall be 40 mm and the bottom edge of the specimen shall be in the middle of the flame. The flame shall be applied to the specimen at the lower end for 120 sec.

- Should the specimen get ignited, it shall not continue to burn for more than 5 seconds in the damaged area after the flame have been removed. There shall be no after burn in the un-damaged area.
- There shall be no drippings.

### 4.0 Requirement of Adhesive tapes:

4.1 The adhesive power of tape must be at least 25N/sq. cm on the surfaces as required on the coaches.

5.0 Handling: Material shall be easily cut with an ordinary knife.

6.0 Packing: In order to prevent damage and deterioration in quality during storage, handling and transportation, the supplier should supply material with suitable packing.

7.0 Marking: Before dispatch, each pack shall be legibly marked with indelible marking ink/paint showing the following details:

- Nomenclature of the store

  
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SPECIFICATION	TECHNICAL SPECIFICATION FOR SELF ADHESIVE INSULATING MATERIAL	MDTS:116 Rev:05 PAGE 4 OF 5 Dated 18/02/2015


- Quantity packed. (total metrage).
- Lot and serial number.
- Month and year of packing.
- Name and trade mark of the manufacturer.
- Name and address of the consignee.

8.0 Eligibility criteria: Tenderer shall be either OEM or an authorized dealer of OEM and shall submit the proof of authorisation and contact details (Phone no., fax no., e-mail id) of OEM representative along with the offer.

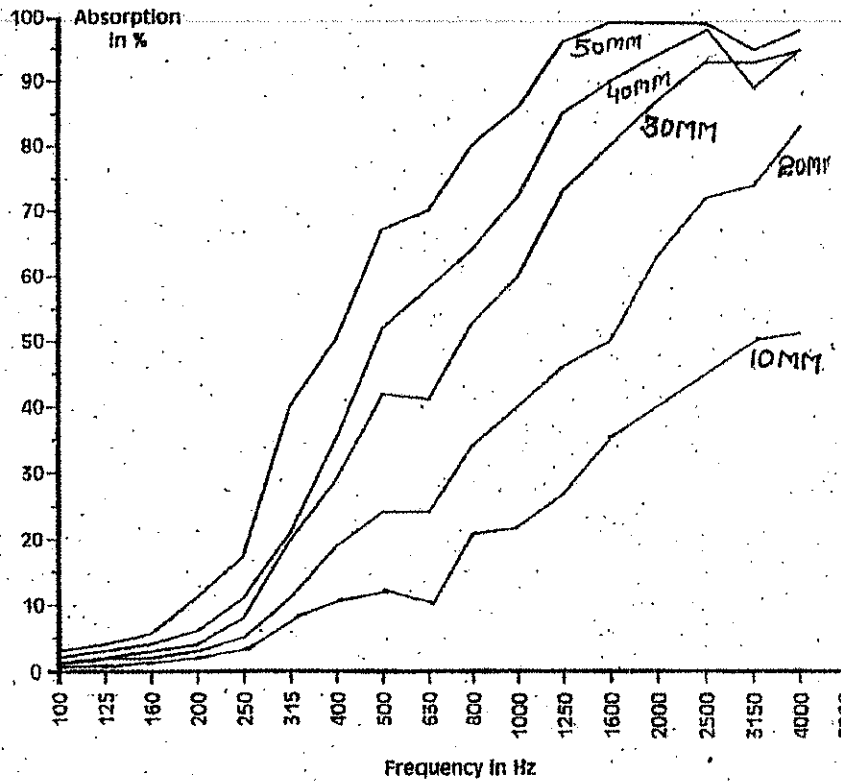
9.0 Prototype approval: Tenderer shall submit one prototype sample within 15 days after placement of PO for approval by CDE/RCF before bulk supply.

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SPECIFICATION	TECHNICAL SPECIFICATION FOR SELF ADHESIVE INSULATING MATERIAL	MDTS:116 Rev:05 PAGE 5 OF 5
		Dated 18/02/2015



Impedance tube in accordance with DIN 52 215-63

*[Signature]*  
Prepared By

*[Signature]*  
Agreed By