

RAIL COACH FACTORY KAPURTHALA

MD22141

DATE: 21.12.2012

Sub: Issue of specification no. [✓]MDTS-088 Rev '4' and MDTS 223 Rev-'02'.

Please find enclosed a copy of specification no MDTS 088 Rev '4' and MDTS 223 Rev-'02' for information and necessary action at your end.

Specification no. -[✓]MDTS 088 Rev '4' and MDTS 223 Rev-'02'

Schedule of requirements for thermal insulation for under frame and sidewall of railway coaches & thermal insulation with fibre glass cloth for stainless steel AC double decker coaches

Cut in immediate (safety/critical items **Cut in immediate** etc.)/cut in for existing P.O./cut in point to be planned & advised/cut in point not required.:


21/12/12
Dy CME/D-1

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

~~SSR~~ / LIB. DESIGN

[✓]SSE / RECORD (With original specification)

SE / DESIGN / RCF / TKJ

Copy for kind information to:

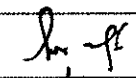


CDE



R.C.F.

Sh. Anand
21/12/12
Submitted
21/12/12

SPECIFICATION	SCHEDULE OF REQUIREMENTS OF THERMAL INSULATION FOR UNDER FRAME AND SIDEWALL OF RAILWAY COACHES	MDTS- 088 Rev - 04 Page 1 of 4 DATE 14.12.2012
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NAME	DESIGNATION	SIGNATURE	DATE	LEVEL
Harish Kumar	SSE/Dev-Fur		15/12/12	Prepared
Suraj Prakash	Dy.CME/Design		15.12.12	Agreed & reviewed
Parmanand Singh	CDE		17.12.12	Approved

Issue / Rev.	Details of changes	Date
Rev-01	1.0 Para 1.0 and 2 modified	06.03.01
Rev-02	1.0 Specification modified	30.11.04
Rev-03	1.0 Specification modifies, main changes are: 1.1 Fire classification changed from DIN-5510-Pt-2 to UIC-564-2 OR 1.2 Resistance to spread of flame, Limiting oxygen index, toxicity, deterioration of visibility due to smoke, water absorption(%) max for 24 hrs at 27±2°C defined. 1.3 Water tapping eliminated. 1.4 Packing, marking, storage, warranty clause added.	29.09.06
Rev-04	1 Method of test for resistance to spread of flame was Appendix-5 in place of Appendix-8 to UIC 564-2. 2 Class-S4 flammability & ST2 for dropping to DIN-5510 (Pt-2) added for resistance to spread of flame 3 Class SR2 smoke generation to DIN-5510 (Pt-2) added for deterioration of visibility due to smoke. 4 Paras 8 & 9 of eligibility criteria & prototype approval respectively added.	14.12.12




Prepared by


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1.0 Forward:

- a. This schedule covers the technical requirements / provision relating to material and tests and does not include all the necessary provisions of contract.
- b. This schedule draws reference to some of the relevant Naval, UIC and other Indian Standard specification. The latest version of the relevant specifications shall be taken as reference.

2.0 Scope:

- a. This schedule covers requirements and methods of tests of thermal insulation for under frame and sidewall of railway coaches.
- b. While quoting, the supplier shall submit the following details:
 - i Clause-wise comments on the specification.
 - ii Deviation statements with respect to specification, if any.
 - iii Credentials and performance of the original supplier.
 - iv Performance and areas of usage of offered material in Railway Applications.
 - v The tender shall submit test certificate from Reputed Test House at the time of offer for parameters listed in Table-I.
 - vi Two samples of size 150x150mm (at least) at the time of submitting of offer for evaluation.

In absence of any of the details, offer may not be considered.

3.0 General Requirements :

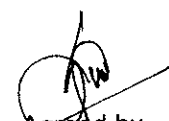
- a. The material shall be of proven design over International Railways.
- b. Material construction shall be of composite corrugated film made up from acetate film or closed cell foam material meeting all values mentioned in the specification. Aluminium layer/ foil may be used along with the material to achieve the desired insulation values. The material shall to conform the properties mentioned in Table-I.
- c. Thickness: 30mm or 60mm or as specified by the purchaser.
- d. Material shall be available in sheet size of 1000x1000mm or supplier's product size range if acceptable to the consignee.
- e. Material shall be easily cut with an ordinary Knife.

Table-I

S. No.	Properties	Values	Method of test
1	Density	Max. 27 Kg/m ³	IS:7888-1976 Cl-4
2	Thermal insulation	Max 0.0544 W/(m ² K) at 10°C	Para 11 of IS:3144-92 or DIN 52612


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3	Sound absorption : Rw value of noise transmission loss should be submitted.	Thickness Sound Absorption Factor 30mm 0.25 60mm 0.40	EN :ISO:11654
4	Resistance to spread of flame	Class A or B or Flammability class - S4 Dropping class - ST2	Appendix-8 of UIC-564-2 OR or DIN-5510 (Pt-2)
5	Limiting oxygen index	Minimum 28	IS:13501:1992
6	Toxicity	Less than 1	NCD1409
7	Deterioration of visibility due to smoke	Class A or B or SR2	Appendix -15 of UIC-564-2 OR or DIN-5510 (Pt-2)
8	Water absorption (%) max. for 24hrs at 27 ± 2 °C.	Less than 2%	ASTM-D-570

4.Packing:

The material shall be packed in neat and dry condition. The material shall be securely packed so as to ensure safe transportation.

5.0 Marking:

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

- Nomenclature of the store
- 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.

6. Storage


The material shall be stored on dry, clean, firm and level surface. The material shall be protected from dust, moisture etc.

7.0 Warranty:

The store supplied against an order shall be deemed to bear a minimum life of 12 years from date of fitment and shall also be deemed to wear a warranty of the


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contractor against defective materials/workmanship and performance for a period of 60 months from date of fitment. If the stores supplied are found by the consignee to be so defective during warranty period, the same shall be replaced immediately with serviceable stores without any charges or cost.

8.0 Eligibility criteria:

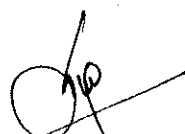
Tenderer shall be either OEM or an authorized dealer of OEM and shall submit the proof of authorisation and contact details (Phone no., fax no., e-mail id) of OEM representative along with the offer.

9.0 Prototype approval:

Tenderer shall submit one prototype sample for first time after placement of PO for approval by CDE/RCF before bulk supply.


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