

RAIL COACH FACTORY KAPURTHALA

MD35131

DATE: 07.12.2019

Sub: Issue of specification no. MDTS 186 Rev-03.

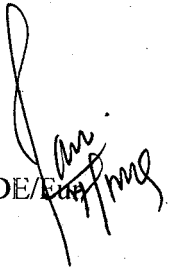
Please find enclosed a copy of specification no. MDTS 186 Rev-03 for information and necessary action at your end.

Specification no. **MDTS 186**

Rev. **03**

Dated: **14.11.2019**

SCHEDULE OF TECHNICAL REQUIREMENTS FOR POLYCARBONATE SNACK TABLE WITH BOTTLE HOLDERS

ADE/ 

CQM, CPLE, CWE (FUR), CMM, CMT, DY.CPLE-II

SSE / LIB. DESIGN

✓ SSE / RECORD (With original specification)

SSE / DESIGN / RCF / TKJ

Copy for kind information to:

DY.CME/D1, DY.CME/D2

CDE

RAIL COACH FACTORY, KAPURTHALA

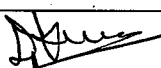
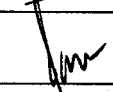


(MECHANICAL DESIGN DEPARTMENT)

SCHEDULE OF TECHNICAL REQUIREMENTS FOR POLYCARBONATE SNACK TABLE WITH BOTTLE HOLDERS

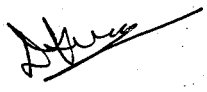
MDTS 186

REV.-3

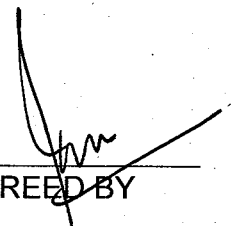
DATED : 14.11.2019

NAME	DESIGNATION	SIGNATURE	DATE	LEVEL
Dharmendra Kumar	SSE/Design		14.11.19	Prepared
Ravi Ranjan	ADE/Fur		15.11.19	Reviewed
Abhay Dogra	DY.CME/D2		26.11.19	Agreed
Manish Bhimte	CDE		06.12.19	Approved

Issue/Rev	Details of Changes	Date
REV.3	<ol style="list-style-type: none"> UV light, water exposure/emersion test changed from acceptance test to type test. Warranty period changed from 18 months to 84 months from the date of supply 	14.11.2019



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1. SCOPE:

- 1.1 This specification covers the general and technical requirements of Polycarbonate Snack Table with bottle holders.

2. MATERIAL REQUIREMENTS:

- 2.1 Material of Pre coloured polycarbonate (no master batch) FR and UV Stabilized Lexan 943A or equivalent Makrolon 6557 having the below mentioned values when tested against protocol mentioned, should be used for injection moulded snack table with bottle holders.

3. GENERAL AND TECHNICAL REQUIREMENTS:

- 3.1 Snack table shall be single piece polycarbonate injection moulded and not to be fabricated.
- 3.2 Necessary stiffening members with in the moulded components may be provided.
- 3.3 Four Bottle holders of standard type shall be fitted with spring loaded lifting mechanism at a suitably accessible location with opening force/pull force of 0.2~0.3 Kgf. And maximum load bearing capacity/force shall be 10Kgf.
- 3.4 All pins and rivets used in assembly to be flared properly to have aesthetic look.
- 3.5 Grain side shall be on the top to avoid slippage of goods.
- 3.6 The snack table should be able to bear a load of 75Kg as per UIC 566.
- 3.7 Unspecified Open Tolerance $\pm 3\text{mm}$ and Tolerance of angle is $\pm 1^\circ$.
- 3.8 Visual Check Points: There should be no Flashes, Sharp Edges, Short molding, Silver marks, Weld lines, Air bubbles, Cracks etc.
- 3.9 The typical values of physical, mechanical and thermal properties of polycarbonate injection moulded snack table shall be as follows:

S.NO	PROPERTY	TEST METHOD	UNITS	VALUE
1	Specific Gravity	ASTM D 792	g/cc	1.18~1.22
2	Light Transmission	ASTM D 1003	%	<ul style="list-style-type: none"> Min 82 [For clear transparent sheet made from source raw materials (except colour) from which final product is made] Min 50 for finish product.


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3	Chemical Resistance i) Coffee/Tea at room Temp. ii) Citric Acid	IS2046 Appendix "M"		Pass
4	Tensile Strength	ASTM D 638	Kgf/cm2	Min 580
5	Flexural Strength	ASTM D 790	Kgf/cm2	Min 830
6	Compressive Strength	ASTM D 695	Kgf/cm2	>84
7	Modulus of Elasticity	ASTM D 790	Kgf/cm2	Min 22000
8	Izod Impact Strength (Notched 23°C)	ASTM D256	cm-Kgf/cm	Min 60
9	Coefficient of Thermal Expansion	ASTM E831	1/°C	~7
10	Heat Deflection Temp. at 1.80Mpa, 4mm thickness, 100 mm span (unannealed)	ISO 75	°C	Min 123
11	Limited Oxygen Index (LOI)	ASTM D 2863	%	Min35
12	General Flammability	UL94V0	mm	V0 at 3mm
13	UV light, water exposure/emersion (*)	UL746C		F1 rating
14	Resistance to spread of flame – Min.	Appendix-11 of UIC-564-2 OR		Class B

* Test at serial no. 13 shall be type test and to be conducted once in a year. Raw material test certificate issued by OEM for this test to be accompanied along with each lot. Inspection authority may repeat the test as and when required.

3.10 Every lot of supply should be accompanied by raw material test report (of raw material used in that particular production), provided by the raw material supplier (per batch of raw material lifted).


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4. TRACEABILITY:

4.1 Manufacturers name and date of manufacture to be stamped/marked at the bottom of table.

5. GUARANTEE:

5.1 If the Polycarbonate snack table with bottle holders fail to meet any of the properties specified above within 84 months of supply of Polycarbonate snack table with bottle holders, then the supplier will have to replace the same free of cost.

6. INFRASTRUCTURE REQUIREMENTS:

6.1 The firm should have state of art injection moulding machine suitable for manufacturing of this snack table.

6.2 The firm should also have the in house test facilities or tie up with NABL accredited test lab for the tests mentioned in this specification. Test records should be available for a minimum period of previous three years from the date of inspection.

ANNEXURE-I

TEST FOR EFFECT OF COACH CLEANING COMPOUND

10cm X 10cm panel of polycarbonate sheet will be cut and kept immersed in diluted solution of coach cleaning compound to spec. M&C/PCN/101/2001 for 72 hours. There should be no deterioration of any property as specified above.


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