

SPECIFICATION	Technical Specifications for Entrance Doors for ALSTOM-LHB design Coaches	MDTS: 081 Rev:02 PAGE 1. OF 4 DATED 18.12.2000

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Issue/Rev	Details of Changes	Date
Rev.-1	1.0 In para 1.0, scope of supply changed from '1 to 16' to '1 to 30'.	22/1/2001
Rev.-2	1.0 Para 1.0 (scope of supply) and para 3 (Technical Requirements) & para 7 modified. 2.0 Applicability para deleted & list of annexure added.	06/3/2001

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ADDENDUM TO MDTS: 081 Rev 02:

IN TECHNICAL SPECIFICATION MDTS081 REV-02 OF ENTRENCE DOORS
FOR ALSLSTOM -LHB DESIGN COACHES DRAWING NO. 1 10113.0. 22.
120.001 alt 'B' MAY BE READ AS 1 10113.0. 22. 120.001 alt 'C'

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1. Scope:

This specification covers the general and technical requirements of Entrance door assemblies for ALSTOM-LHB Design Coaches. The general arrangement, mounting and scope of supply shall be as per the following :

Description	Mounting drawing	Scope of supply/ QPC		
		AC 2nd C/Car, ACCW/EOG, AC 3T EOG/SG	EX. C/Car, 1st AC Sleeper EOG	Power Car, Buffet EOG
Entrance door mounting	1 10113.0. 22. 120.001 alt'B'	Item no.'s 3,4 9 to 30 (Qty. to be doubled as given in BOM)	Item no.'s 1,2 9 to 30 (Qty. to be doubled as given in BOM)	Item no.'s 5,6 9 to 30

2. Functional Requirements :

The door shall be hinged type door and have an manual inward opening with an automatic folding up(Drg. no. 840.052/853.052) of a rugged and hard-wearing step covering inside the vehicle. The step covering shall be in accordance with UIC560. It shall not be possible to open the step from outside when the door is in closed position.

The exterior profile of the door shall match with the sidewall contours and the mounting parts shall not exceed the maximum moving dimension gauge as per SK-66064 and EDO-590. The door handles are to be embedded in handle holes to avoid projection and facilitate mechanised washing.

3.0 TECHNICAL REQUIREMENTS:

Construction: The door leaves (LH & RH) shall be made from stainless steel to AISI-304 and the inside paneling shall be made of glass fiber reinforced plastics MDTS-084 or high pressure laminate sheets (HPL) to MDTS-086. The inside of the door leaves shall be filled with phenol resin to IS:13204-1991 or any other suitable filling material to make the door leaves as sandwich construction for weight reduction.

Sealing : EPDM sealing profiles to Drg no. 840.202, 840.203 & 840.204 shall be provided to ensure an airtight closure of the doors.

Glazing : The doors are to be provided with double glazed windows. The height

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of the door windows shall align with the height of the sidewall windows drawing no. 1 10113.0.23.000.001. Window shall be water tight against moisture. Drawing no.'s 1 10113.0.23.000.001 for window fitment may be referred for guidance.

Locking : The entrance doors are to be provided with a locking mechanism, that includes the locking from outside by padlock. Schematic of locking arrgt. is indicated in door leaf drawing.

Others Requirements : The weight of the door including all components shall not exceed 70 kgs.

The doors shall be supplied in unpainted conditions. FRP parts fixed on the doors shall be gelcoated in white color.

Fire characteristics of the unit shall be as per appendix -6 of UIC 564 (2).

4. Interfaces with the carbody

The fixing dimensions, tolerances and mounting arrangement of entrance doors shall be as per the drawings no. 1 10113.0.22.120.001 alt 'B'.

5. Mechanical strength requirements

1. Doors shall meet the mechanical strength requirements as described in appendix -9 of UIC 566.

2. The passenger coaches running on Indian Railways are designed for a service life of 30 years. The doors are to be developed and assembled accordingly.

3. Resistance to vermin :

Selection of the materials (insulation, sealant, rubber, etc.), should be done with due consideration to their resistance to vermin (e.g. termites).

6 Warranty :

The supplier shall give warranty for the complete or part of door, for failing or proving unsatisfactory in service due to defective design, material or workmanship within 36 months from the date of regular supply and shall replace the same at his own cost and risk. The supplier shall fix identification marks on each door mentioning name of the supplier and month of supply of doors to RCF. These identification marks shall not be visible to the passengers easily.

7 Documents to be submitted by supplier for prototype approval:

The following documentation for the assembly of the doors are to be prepared by the supplier for submission along with the prototype assembly.

1. A set of drawings consisting of drawings and parts lists
2. Clearly organised instructions for mounting and adjusting the doors, changing the door and wearing parts

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3. Maintenance and repair instructions.
4. Technical description of the door & parts used including locking arrgt., window and sealing arrgt.

8. Testing of prototype & regular production assemblies:

The supplier shall supply one prototype of doors alongwith the documents indicated above for approval before commencing bulk supply. The prototypes and drawings shall be examined from all view points and these shall be fitted on the coach/mock-up for checking proper fitment/functioning of the doors. Supplier shall incorporate changes suggested by RCF in the prototype as well as bulk supply. The bulk manufacture shall be undertaken only after the approval of prototype.

The door shall be tested as per appendix 9 of UIC-566. After unloading of the door, there should be no permanent deformation.

Fire Test: The door shall be tested for fire retardance as per appendix- 6 of UIC-564. The supplier shall get the doors tested from a reputed firm/laboratory and shall supply a certificate in this regard.

This clause is applicable for first supply of a supplier. However, RCF shall have the right to repeat prototype approval process in subsequent order also. In this regard RCF decision shall be final

9.0 Upgradation of design

Supplier may offer alternate design of doors for all the above or any of the above clauses with a view to upgrade the design. Clausewise justification shall be given by the supplier in such case. Doors having lower weight shall be preferred. Specification details may be deviated from those specified above, if sufficient technical justification is available. However, RCF's decision on all such matters shall be final.

List of annexure :

Entrance Door mounting	1 10113.0. 22. 120.001 alt'B'
Folding step (LH/RH)	840.052 & 853.052
Max. moving Dimension	SK-66064 & EDO-590
EPDM sealing Profiles	840.202, 840.203 & 840.204
Window fitment arrgt.	1 10113.0.23.000.001

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