

**RAIL COACH FACTORY, KAPURTHALA**

MD35131

DATE: 16.04.2025

**Sub:** Issue of RCF specification no. **MDTS-46270 (Rev-03)**.

Please find enclosed a copy of following specification for information and necessary action.

S. No.	Description	Specification No.
1.	<b>Schedule of Technical Requirements for Fire Extinguisher with Anti-Theft Mechanism</b>	<b>MDTS-46270 (Rev-03)</b>

 16/04/25  
Dy. CME/Design/Fur

CQM          CPLE                  CWE (Fur)    CMM/HSQ    CMM/TKJ    CMT  
CWE/Shell    Dy.CMM/LHB/Fur    Dy.CMM/G    Dy.CPLE-I    Dy.CPLE-II    Dy.CMM/Fur

SSE/FILING SECTION  
SSE / LIBRARY, MECH. DESIGN  
SSE / RECORD  
SSE / DEV

**Copy for kind information to:**  
CDE

**SCHEDULE OF TECHNICAL REQUIREMENTS FOR FIRE EXTINGUISHER WITH  
ANTI-THEFT MECHANISM****DOCUMENT CONTROL:**

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**LIST OF AMENDMENTS:**

S. No.	Amendment Date	Revision	Details
1.	29/11/2014	00	First issue
2.	29/10/2018	01	I. Timer switch to avoid continued sounding of the hooter added in para 4.iii. II. Para 1(b), Prototype approval (Para 6) 3(iii, v, vi) & 4(i) modified. III. Aluminium body cylinder with seamless structure added in para's 2 & 3(i). IV. Weight and dimension in Table-1 modified.
3.	19/08/2024	02	<b>DIC No. MD240047</b> 1. Table-1 modified. 2. Clause- 2 & 3(i) modified to provide SS body cylinder in place of aluminium body cylinder. 3. Clause 3(ix), fire rating changed from 1A:13B or 2A:34B to 3A:89B. 4. Clause 3(viii) & 5, Life of Fire extinguisher changed from 5 year to 10 year and routine testing added.

**SCHEDULE OF TECHNICAL REQUIREMENTS FOR FIRE EXTINGUISHER WITH  
ANTI-THEFT MECHANISM**

S. No.	Amendment Date	Revision	Details
4.	31/03/2025	03	<ol style="list-style-type: none"><li>1. Clause-2, capacity 4 Kg. deleted.</li><li>2. Clause- 3(i), word “seamless structure” deleted.</li><li>3. Clause 3(i) (Table-1, Sr. No.2), capacity 4 Kg. deleted and spec. added for capacity.</li><li>4. Clause 3(i) (Table-1, Sr. No.10) and Clause 3(vii), Grade and spec. of Nitrogen propellant added.</li><li>5. Clause 3(i), Sr. No.14 in Table-1 added for shelf life.</li><li>6. Clause 3(iii), word “OR EN 3-7:2004, EN 3-8:2006 Approved” deleted.</li><li>7. Clause 3(iv), spec. of DCP updated from IS:14609-1999 to IS:4308-2019.</li><li>8. Clause 3(v), sentence “The extinguisher shall have completely seamless body” has been deleted.</li><li>9. Clause 3(viii) deleted and other clause renumbered.</li><li>10. Clause-5 updated for warranty conditions.</li></ol>

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**1. General:**

- a. This specification covers the general & technical requirements for dry chemical powder type fire extinguisher with anti –theft mechanism to be provided in passenger coaches of Indian Railways.
- b. While quoting, the supplier shall submit the following details:
  - Technical data sheet of the offered product.
  - Clause wise comments on the specification.
  - Deviation statement with respect to specification, if any.
  - Credentials and performance of the original supplier i.e. OEM.
  - In case of an authorized dealer of OEM, letter of authorization from the OEM
  - Test certificates from NABL certified Labs OR from the OEM Test Lab (NABL accredited Lab) (issue date of test certificates submitted shall not be more than four years old from the date of opening of tender) indicating compliance to all the test parameters.

**2. Description:**

The system shall consist of ABC type dry chemical powder SS body fire Extinguisher with anti- theft mechanism. The anti-theft mechanism shall be electro-mechanical device to prevent misuse/theft of the fire extinguisher system from its mounting location fixed inside the Railway passenger coaches.

**3. Description of fire extinguisher:**

- i) The fire extinguisher should be ABC dry chemical powder SS body with stored pressure. The details requirements should be as per Table -1:

## SCHEDULE OF TECHNICAL REQUIREMENTS FOR FIRE EXTINGUISHER WITH ANTI-THEFT MECHANISM

**Table-1**

S. No.	Description	Parameters of fire Extinguisher
1.	Type of Fire Extinguisher	Stored pressure DCP type (Mono Ammonium Phosphate based dry powder 90%)
2.	Capacity	As per IS:15683-2018
3.	Standard code	IS:15683-2018
4.	Fire rating	3A:89B
5.	Gross weight	15 Kgs. (Max.)
6.	Diameter of cylinder	160 mm. (Max.)
7.	Overall height of extinguisher	550 mm. (Max.)
8.	Cylinder material	Stainless Steel (IS:15683-2018, clause 9.2.6)
9.	Temperature range	-10 °C to +60 °C
10.	Propellant	Nitrogen (IS:1747-2023, N 5.0 Grade)
11.	Minimum effective discharge time	9 Second (Min.)
12.	Minimum effective range	2 Meters (Min)
13.	No. of fire extinguishers per coach	2
14.	Shelf Life	10 Years

- ii) The current and valid BIS certification of IS:15683-2018 with latest amendments needs to be submitted by the vendor along with offer.
- iii) The fire extinguisher shall be ISI marked.
- iv) Dry chemical powder used as extinguisher agent should be Mono Ammonium Phosphate with more than 90% concentration conforming to IS:4308-2019. Material safety data sheet of the powder being used needs to be submitted along with offer.
- v) The external coating of cylinder should have epoxy powder coating.
- vi) Each vessel needs to be checked for hydrostatic pressure up to 35 Kg/cm<sup>2</sup> and OEM has to submit Hydrostatic Pressure testing certificate for the same.
- vii) The extinguishers should be pressurized with using high grade dry Nitrogen (propellant) as per IS:1747-2023, N 5.0 Grade. OEM declaration should be submitted.
- viii) Fire rating for Class A: 3A and Class B: 89B needs to be provided for the extinguisher. The firm should submit the product performance test report from NABL accredited/Government Lab.
- ix) The extinguisher should have appropriate pressure gauge.
- x) The Extinguisher should have a controllable discharge mechanism to provide flexibility of releasing extinguishing agent on targeted fire location.

**SCHEDULE OF TECHNICAL REQUIREMENTS FOR FIRE EXTINGUISHER WITH ANTI-THEFT MECHANISM****4. Description of Anti-Theft Mechanism**

- i) The anti-theft mechanism should be an electro-mechanical device to prevent misuse/theft of fire extinguisher. The complete mechanism should be a wall mounted with a rust resistant steel cable/wire/chain, one end of which is attached to an alarm device and the other end is attached securely with the extinguisher. On removal of the extinguisher from its mounting, for any reason, the steel cable should get pulled out from the device and thereby activating an alarm.
- ii) The steel cable attaching the alarm and the extinguisher should be more than 3.5 mm. thick and should have a protective layer to prevent rusting during the normal life span of the product.
- iii) The activated alarm should have audibility of not less than 80 decibels (dB) at a distance of 1 meter. The alarm should remain activated for at least 5 minutes. A timer switch (with time adjusting facilities by 30seconds) shall be provided so that alarm on timer can be adjusted.
- iv) The device should also have a reset mechanism that in case the cable is reinserted, the alarm would be deactivated.
- v) It should be self-powered with suitable 9 volts long life batteries to provide a stand by battery life of at least 12 months.
- vi) The device should not weight more than 350 grams all-inclusive, and its dimensions should not more than 150 mm X 150 mm X 60 mm (height).
- vii) The mechanism should have tamper proof sturdy design and should be made from long-life rust-free material such as an engineering plastic.

**5. Warranty:**

- i) The fire extinguishers are expected to be fit and forget type with inspection intervals matching the maintenance schedule of rolling stock on which it is installed.
- ii) The supplier shall provide a warranty for all supplied items for a period of 6 (Six) years from the date of fitment or 7 (Seven) years from the date of supply whichever is earlier.
- iii) The fire extinguisher should be tested at an interval of 3 years for its functioning and suitability.
- iv) All information required for filing a warranty claim shall be provided in a warranty certificate and on a QR code sticker pasted on the item.

**SCHEDULE OF TECHNICAL REQUIREMENTS FOR FIRE EXTINGUISHER WITH ANTI-THEFT MECHANISM****6. Prototype approval:**

The firm who has not got their prototype sample approved earlier, shall submit following documents for prototype from CDE/RCF for PO placed by RCF or to user Railways for PO placed by them, before bulk supply:

- Mounting details & dimensions
- Technical and safety data-sheet of the offered product
- Test certificates from NABL certified Labs OR from the OEM Test Lab (NABL accredited lab) (latest test report or within last one year) indicating compliance to all the test parameters.
- Letter of authorization from the OEM (in case of an authorized dealer of OEM).

The prototype and drawings shall be examined from all view points and supplier shall incorporate modifications suggested by RCF on the basis of this review of prototype and drawings. Only after getting approval of drawings and prototype from CDE, the firm can undertake bulk supply.

The prototype approval is applicable on the first supply of material as per this specification from a supplier. RCF will do prototype approval for POs placed by RCF only. Above approval for PO placed by Railways is to be done by them

**7. Up-Gradation of Design:**

Suppliers may offer alternate design of anti-theft mechanism for all of the above or any of the above clauses with a view to upgrade design/concept. Clause wise justification shall be given by the supplier in such case. Specification details for the subject item may be deviated from those specified above, if sufficient technical justification is provided. However, RCF's decision on all such matters shall be final and bindings.