

## रेल कोच फैक्ट्री, कपूरथला

पत्र संख्या- MD35131

जारी करने की तिथि - 19/12/2023

**विषय: विशिष्टता प्रकाशन संख्या RCF-MD-PS-2023-3 Rev 03.**

आपको सूचित किया जाता है विनिर्देश दस्तावेज़ आधिकारिक तौर पर जारी कर दिया गया है। कृपया जानकारी और अन्य आवश्यक कार्रवाई के लिए निम्नलिखित विशिष्टताओं की संलग्न प्रति प्राप्त करें

S. No	Description	Specification No.
1.	PURCHASE SPECIFICATION OF SUPPLY & FITMENT OF COMPLETE FURNISHING OF AC-3T COACHES ON TURNKEY BASIS	<b>RCF-MD-PS-2023-3 Rev 03</b>

**Dy.Cme/D-II**

CQM-I,II      CPLE      CWE/Fur      CMM/ HSQ      CMM/TKJ      CWE/Shell

Dy.CMM/LHB/HSQ      Dy.CMM/G      CMT      Dy. CPLE-I,II      Dy.CMM/Fur

SSE/Filing Section

SSE/Library, Mech. Design

SSE Record (Original copy)

SSE/Dev.

**Copy for kind information to:**

CDE

Dy.CME/DP & S&B

भारत सरकार  
रेल मंत्रालय  
रेल डिब्बा कारखाना  
कपुरथला  
पंजाब 144602  
स्थापित: 1986



**RCF**

**KAPURTHALA**

Government of India  
Ministry of Railways  
Rail Coach Factory  
Kapurthala  
Punjab 144602  
ESTT: 1986

टर्नकी आधार पर एसी-3टी कोचों की पूरी फर्निशिंग की आपूर्ति और फिटमेंट की खरीद  
विनिर्देश

**PURCHASE SPECIFICATION OF SUPPLY & FITMENT OF COMPLETE  
FURNISHING OF AC-3T COACHES ON TURNKEY BASIS**



Specification Number	RCF-MD-PS-2023-3		
Revision Number	03	Date of Issue	19-12-23

**BRIEF DESCRIPTION:**

This document contains the specifications for furnishing of AC -3T coaches on turnkey basis to be manufactured at RCF/KXH.

## **FOREWORD**

These technical requirements laid down general / technical, testing requirements for complete furnishing of AC-3T coaches of Indian Railways.

## **DISCLAIMER**

This specification is based on the studies, trials & experience by RCF/KXH. Although every care is taken in specifying details adequately and unambiguously, RCF/KXH shall not liable for any kind of damages / losses incurred by any and all due to errors or omissions in this document. When using the information described herein, the user is ultimately responsible for their own actions, as well as the actions of subordinates and assistants, and the consequences arising there from.

This document may mention numerous commercial and proprietary trade names, registered trademarks and the like (not necessarily marked as such), patents, production and manufacturing procedures, registered designs, and designations. RCF wishes to state clearly that the present legal situation in respect of these names or designations or trademarks must be carefully examined before making any commercial use of the same.

Names of industrially produced apparatus and equipment may be included to a necessarily restricted extent only and any exclusion of products not mentioned in this document does not imply that any such exclusion has been based on quality criteria or any other qualifying consideration.

## **COPYRIGHT**

RCF/KXH has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission of RCF. Enquires relating to the copyright should be addressed to Public Relations Officer, RCF/KXH.

## **ADDRESS FOR COMMUNICATION**

Public Relations Officer  
Government of India - Ministry of Railways,  
Rail Coach Factory  
Kapurthala  
Punjab  
India  
Pin: 144602  
Website: [www.rcf.indianrailways.gov.in](http://www.rcf.indianrailways.gov.in)

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

## DOCUMENT CONTROL

Name	Designation	Signature	Reason
Ajay Parshad	SSE/PSI	AJAY PARSHAD Digitally signed by AJAY PARSHAD Date: 2023.12.19 17:47:27 +05'30'	PREPARED
Jugal Kishor	Dy CME/Design-2	JUGAL KISHOR Digitally signed by JUGAL KISHOR Date: 2023.12.19 17:47:51 +05'30'	REVIEWED
Bhupeshwar Attri	CPLE & CDE	BHUPESHWAR ATTRI Digitally signed by BHUPESHWAR ATTRI Date: 2023.12.19 18:03:48 +05'30'	APPROVED

## LIST OF AMENDMENTS

S. No.	Amendment Date	Revision	Details
1.	01/12/2023	01	<p><b>1.Objective of this document</b> Point 3 of GCC or other standard conditions as applicable.is changed as IRS or other standard conditions as applicable</p> <p><b>7.1 Mechanical items</b> Table -3 para xii special condition amendment as MDTS_214 Rev_12 Coach Drawing for Outside Wash Basin and Dust Bin arrgt shall be as per drg no MI007920 with latest alteration . (along with additional items mentioned in Clause '7 &amp; S.No C of Annexure 'A') Para xiv of table 3 Special condition added Location of Fire extinguisher shall be As per latest Drg.No MI007920</p> <p><b>5.3 Para Added</b></p>
2.	15/12/2023	2	<p>Correction in the list of amendments.</p> <p>Improvement in the language of clause 5.2.</p>
3.	19/12/2023	3	<p>Para 12.3 updated As Rev-0 of Same spec .</p> <p>Para 12.15 Number format corrected</p>

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

## CONTENTS

0	Introduction .....	4
1	Objective of this document .....	4
2	Scope of the specification.....	4
3	List of standards and documents referred .....	4
4	Abbreviations / Terminology .....	5
5	Pre-requisites for eligibility for bulk (regular) and development orders: .....	5
5.1	Eligibility for Bulk / Regular Purchase .....	5
5.2	Eligibility for Developmental Purchase .....	6
5.3	Incase the bidder is a Consortium / Joint Venture.....	7
6	Salient features of the coach: .....	8
7	Scope of work: .....	8
7.1	Mechanical Items.....	8
7.2	Electrical Items .....	9
7.3	Technical requirements .....	11
7.4	Accessories and hardware .....	11
8	Project activity sequence .....	12
8.1	Tender processing .....	12
8.2	Development of QAP and approval.....	12
8.3	Dispatch of prototype furnishing kits to RCF/KXH.....	12
8.4	Assembly of furnishing kits at RCF/KXH .....	12
8.5	Installation of the furnishing kits on the prototype coach shells at RCF .....	12
8.6	Prototype Review .....	12
8.7	Review of modifications required in furnishing kits.....	12
8.8	Supply of change validation kits to RCF and fitment.....	12
8.9	Go-ahead for series production of complete shells .....	12
8.10	Series manufacture and supply of furnishing kits and its installation .....	12
9	Project Schedule .....	13
10	Quality Assurance and Inspection Plan.....	13
10.1	Quality Assurance, Tests & Documents.....	13
10.2	Inspection Plan .....	14
11	Provisioning of facilities for working .....	14
11.1	Facilities to be provisioned by RCF at RCF/KXH .....	14
11.2	Facilities to be provisioned by the contractor .....	14
12	General Terms & Conditions .....	15
12.1	Intellectual Property Rights (IPR) .....	15
12.2	Sub-contracting and outsourcing.....	15
12.3	RCF production plan.....	16
12.4	Safe keep during storage and transit .....	16
12.5	RCF right to inspect and audit .....	16
12.6	Handling of changes post approvals .....	16
12.7	Sourcing of raw material and assemblies.....	16
12.8	Change in quantity distribution .....	16
12.9	Damage to RCF property .....	16
12.10	Damaged to supplied / fitted materials .....	16
12.11	Requirement of Contractor's Personnel .....	16
12.12	COVID-19 Safety .....	17
12.13	Compliance of Statutory & Regulatory requirements .....	18
12.14	Indemnification of RCF .....	18
12.15	Miscellaneous Term and Conditions .....	18
12.16	Errors omissions & discrepancies .....	18
12.17	Worksites .....	18
13	Guarantee/Warranty and Spares.....	18
13.1	Attention on site .....	18
13.2	Preventive Maintenance during warranty .....	19
14	Payment Milestones and Terms .....	19
15	Penalties .....	19
15.1	Penalty for non-completion of the coach work .....	19
15.2	Attention during warranty.....	19
16	Information to be provided by bidder / contractor .....	19
16.1	Information to be provided at the time of the bid .....	19

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

16.2 Information to be supplied with the material consignment ..... 20

## LIST OF TABLES

Table 1: List of referred standards& documents	5
Table 2: Abbreviations / Terminology	5
Table 3: Mechanical Items	9
Table 4: Electrical Items:	10
Table 5: Project Schedule	13
Table 6: Quality Assurance Tests & Documents	14
Table 7: Information to be provided with the bid	19
Table 8: Information to be provided with material consignment	20

## LIST OF ANNEXURES

Annexure-1	Format of Power of Attorney for signing of Bid
Annexure-2	Format for Power of Attorney for Lead Member of Consortium
Annexure-3	Format for Consortium/Association Agreement
Annexure-4	Confidentiality & permitted use undertaking
Annexure-5	QAP Framework
Annexure-A	Seat & Berths

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

## 0 Introduction

This specification covers scope of work as “Supply& fitment of complete furnishing of AC Three Tier Coach” by the firm on Turnkey basis & eligibility criteria, general requirements & other guidelines regarding execution of work.

## 1 Objective of this document

This document contains the techno-commercial requirements for enabling a tender and contract and post contract activities for the items included in the scope.

This document is to be read along with the other tender documents i.e.

1. Notice Inviting Tender
2. RCF Bid Document
3. IRS or other standard conditions as applicable.

## 2 Scope of the specification

This document is a purchase specification for enabling purchase and installation of interior furnishing items for LHB AC 3TCoaches. The document specifies the requirements for eligibility criteria, scope of supply, quality assurance requirements, prototype approval and inspection requirements, as supplied requirements, project schedule, payment milestones and guarantee warrantee.

These have been framed keeping in view the lifecycle requirements of the items to be supplied.

This document is planned to be used as part of the tender specifications for the purchase of Furnishing item kits and turnkey interior furnishing for manufacture of LHB AC 3Tier Coaches.

## 3 List of standards and documents referred

S. No.	Standard / Document	Title
1.	CG-18001 Rev.01	Specification
2.	LE90050	Drawing
3.	EDML064 Rev. B, AM-4, Tab-1B	Specification
4.	EDTS-331, Rev.-A	
5.	EDTS173, Rev. 'b' Cor. 1,2,3 (Type-3)	
6.	ELPS/SPEC/EOG/01	Code of Practice for Wiring in 750V EOG System
7.	RDSO/PE/O/0008-2005 (Rev.-0).	Code of Practice
8.	ELPS/TP/AC/01,JAN-94	Specification
9.	EN 45545 HL3	Specification
10.	ICF/MD/SPEC-269 REV.05	Specification
11.	ICF/SK3-9-0-161 alt-c	Drawing
12.	LE90067 Alt-e	Layout Drgs
13.	LW54188	Drawing
14.	MDTS 082	Specification
15.	MDTS 114	Specification
16.	MDTS 133 Rev-05	Specification
17.	MDTS 187	Specification
18.	MDTS 214 Rev-12 or latest	Specification
19.	MDTS-156	Specification
20.	MDTS-203 Revision 05	Specification
21.	MDTS-237	Specification
22.	MMDTS-19020 Rev-3	Specification
23.	MMDTS-19021 Rev-2	Specification
24.	MMDTS-19027	Specification
25.	RDSO 2008/CG-12.	Specification
26.	RDSO/2006/CG-12	Specification
27.	RDSO/2008/CG-07 Rev-Nil	Specification
28.	RDSO/2008/CG-12	Specification

S. No.	Standard / Document	Title
29.	RDSO/PE/SPEC/TL/0091-2016, Rev.1 (or latest)	Specification
30.	RDSO/PE/O/0008-2005 (Rev.-0).	Code of Practice for prevention of fire in AC Coaches.

**Table 1: List of referred standards& documents**

## 4 Abbreviations / Terminology

S. No.	Abbreviations / Terminology	Expansion / Explanation
1.	BoM	Bill of Materials
2.	KXH	Indian Railways station code for Kapurthala
3.	LHB	Linke-Hofmann-Busch the ToT partner for RCF/KXH.
4.	QAP	Quality Assurance Plan
5.	RCF	Rail Coach Factory
6.	ToT	Transfer of Technology.
7.	IR	Indian Railway

**Table 2: Abbreviations / Terminology**

## 5 Pre-requisites for eligibility for bulk (regular) and development orders:

The following eligibility criteria shall be followed for evaluation of offers. These are grouped into technical and financial requirements.

---

*Note: The pre-requisites provided here are to be used as default requirements. These may be overruled by the eligibility requirements prescribed while processing the purchase.*

---

### 5.1 Eligibility for Bulk / Regular Purchase

The following clauses list the eligibility for bulk (regular) purchase.

#### 5.1.1 Technical Eligibility

The following shall be the technical eligibility requirements to qualify for bulk purchase.

---

*Note: If supporting documents for credentials as per the eligibility criteria are not enclosed, then RCF shall use its own available records or reject the bid.*

---

##### 5.1.1.1 Requisite Quality certification

The Bidder shall have ISO 9001:2015 /IRIS certification valid on date of bid closing. Copies of the certification shall be provided.

##### 5.1.1.2 Proven capability and capacity.

The bidder should have successfully completed turnkey furnishing of either 20% of the tendered quantity or 25 Nos. of air-conditioned railway coaches, whichever is lower, of gauge 610mm and above, and with axle load of 5 tonnes and above for any public passenger railways of the world, in a single order within period of previous three financial years and current financial years as on the date of bid closing. Turnkey means single work including panelling, seats & berths, AC ducting, roofing, flooring, toilets and electrical wiring and fittings.



Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

Successful completion shall mean completion of work as per the contract scope including quality checks. In case of Indian Railway, completion certificate by executive department of purchasing unit and in case of entities other than Indian Railway, certificate from purchaser shall be considered for successful completion.

---

*NOTE: If scope of the tender does not include any of the above activities (i.e. paneling, seats & berths, AC ducting, roofing, flooring, toilets and electrical wiring and fittings), those activities should be removed from the eligibility by the concerned contracting unit.*

---

### 5.1.2 Financial Eligibility

Firm's total gross revenue/turnover within a period of previous three Financial Years preceding the bid closing date must be minimum 100 % of the estimated tender value.

Copies of Audited Profit and Loss account and balance sheet should be provided. Where the same is not available for the latest financial year, certificate of statutory Auditor stating that the same is not available should be enclosed. In such case, the bidder shall provide audited profit and loss account and balance sheet for 3 years preceding the year for which the audited annual report is not being provided. These financial statements must be certified by a chartered accountant or any statutory auditor.

### 5.1.3 Electrical Contractor License: (This Clause shall be included wherever applicable)

The bidder shall undertake in the bid to submit a valid class "A" Electrical contractor's License as applicable from the concerned statutory authority before start of execution of the work.

OR

The bidder shall provide an undertaking in the bid to submit a formal agreement with suitable Sub contractor, holding a valid class A" Electrical contractor's license as applicable from the concerned statutory authority, for executing electrical portion of work. The bidder shall submit a formal agreement duly notarized, legally enforceable in the court of law, between the bidder and sub contractor for the Electrical component of work proposed to be executed by the sub-contractor, before start of execution of work.

### 5.1.4 Performance

Out of the turnkey furnishing completed by the bidders during the last 5 financial years preceding the bid closing date, at least 10 coaches must be in successful operation (No pending warranty complaints) for minimum 02 years after commissioning ending 30 days prior to bid closing date.

The assessment shall be made from the entries on the IR warranty Portal. certificate for successful operation will be submitted from User Railway (in case of Indian Railway, the certificate shall be submitted from Head of Quality Unit of the contracting Production Unit).

## 5.2 Eligibility for Developmental Purchase

All clauses above on Requisite Quality Certification, Financial Eligibility and Electrical Contractor license, applicable for bulk/regular orders, shall be applicable.

The following clauses shall supersede the respective clauses defined for bulk orders.

### Proven capability and capacity (Clause 5.1.1.2) shall be superseded by the following:

Furnishing/building of at least 25 passenger transport vehicles (capacity more than 10 passengers) for rail / road / water / airways on turnkey basis within a period of previous three financial years and current financial year as on the date of bid closing. Turnkey means single work including paneling, seats & berths, roofing, flooring, toilets and electrical wiring and fittings.

---

*Note: Documents to establish eligibility should be submitted by bidder along with the bid.*

---

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

### 5.3 Incase the bidder is a Consortium / Joint Venture

In case the Bidder is a Consortium/Joint Venture, it shall comply with the following additional requirements:

1. Number of members in a Consortium/Joint Venture shall not exceed 4 (Four).
2. A firm can be a partner in only one Consortium. Bids submitted by Consortium including the same firm as partners in more than one bid, will be rejected. (This restriction will not apply to sub-contractors for the bought-out items)
3. The Bid should contain the required information for each member of the Consortium/Joint Venture.
4. Members of the Consortium/Joint Venture shall nominate one member as the "Lead Member".
  - 4.1. Lead Member shall meet 51% of the financial eligibility condition in case of Consortium or shall have minimum 51% shareholding in the Joint Venture.
  - 4.2. The nomination of Lead Member shall be supported by a Power of Attorney, as per the format at Annexure 1&2, signed by all the other members of the Consortium/Joint Venture.
  - 4.3. The lead partner shall be responsible for coordinating the scope of supply / work as detailed in this document. There should be an authorization to this effect evidenced by submission of a power of attorney with bid duly signed by legally authorized signatories of all partners.
  - 4.4. The lead partner shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the Consortium, and the entire execution of the contract, including payment, shall be done exclusively by the lead partner.
  - 4.5. The lead member of Consortium shall be responsible for all financial covenants and bank guarantees.
5. Technical Eligibility requirements is to be satisfied by any member of Consortium/Joint Venture having minimum 26% share of financial eligibility in case consortium or 26% shareholding in the Joint Venture.
6. Consortium/Joint Venture as whole shall cumulatively/collectively fulfil the 100% Technical Capability as per and 100% Financial Capability.
7. The Bid shall include a brief description of the roles and responsibilities of individual members, particularly with reference to financial, technical and defect liability obligations;
8. The Lead Member shall carry out works directly under its own supervision and through its own personal.
9. Members of the Consortium/Joint Venture shall have entered into a binding Joint Bidding Agreement, substantially in the form specified at Annexure 3, for the purpose of making the Bid.
10. A copy of the agreement entered into by the Consortium partners shall be submitted with the bid. Alternatively, a "letter of Intent" (to execute a Consortium agreement, meeting with all specified requirements, in the event of a successful bid) shall be signed by all Consortium partners and submitted with the bid together with a copy of the proposed agreement. Consortium agreement duly signed by all Consortium partners shall form part of the contract agreement. The Consortium agreement should precisely indicate the responsibility of all members of Consortium in respect of planning, design, manufacturing, supply, installation, system integration, commissioning, training and warranty obligations etc. This should not be varied/ modified subsequently without the prior approval of the purchaser. The Consortium agreement should be Registered/Notarized anywhere in India, if the lead partner/Consortium partners are registered in India. For foreign companies, they should be Registered/Notarized as per the laws of their respective country, so as to be legally valid and binding on all partners. (Annexure-3)
11. All partners of the Consortium shall be liable jointly and severally for the execution of the contract in accordance with the contract terms.
12. Approval for change of constitution of Consortium/Joint Venture shall be at sole discretion of the Authority. The constitution of the Consortium/Joint Venture shall not be allowed to be modified after submission of the Bid by the Consortium/Joint Venture, except when modification becomes inevitable due to Succession laws etc., provided further that there is no change in qualification of minimum eligibility criteria by Consortium/JV. However, the Lead member shall continue to be the Lead Member of the Consortium/Joint Venture. Failure to observe this requirement would render the offer invalid.
13. Similarly, after the contract is awarded, the constitution of Consortium/Joint Venture shall not be allowed to be altered during the currency of contract except when modification becomes inevitable due to Succession laws etc., provided further that it does not change the minimum eligibility criteria. Failure

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

to observe this stipulation shall be deemed to be breach of contract with all consequential penal action as per contract condition.

## 6 Salient features of the coach:

1. Application of anti-graffiti coating for clean and user-friendly toilets.
2. Aesthetically better interior paneling and moulding.
3. Aesthetically designed, light weight, durable and EN-45545-2 complied seats& berths.
4. Pressurized flushing system in Toilets.
5. World class passenger amenities items like glass holder, snack tables, ladders, luggage racks, cabin mirror, toilet fittings, taps etc.
6. Provision of LED type Luminaries.

## 7 Scope of work:

The scope of supply shall include manufacture, assembly and supply of furnishing kits as per the Quantity and supply conditions for scope of supply:

### 7.1 Mechanical Items

#	Description of items	Qty/ Coach	Scope as per Drawing	Special Conditions
(i)	Layout drawing no.		LE90050 alt-a	
(ii)	General Installation Drawing		LE90068 alt d	
(iii)	Layout of Partition Frame	1 set	LE10012	Honeycomb bolted type partition frame with SS pillars to layout no LE10012.
(iv)	Grips and Label arrangement	1 set	LE24100	
(v)	Step complete mounting	4 Nos	LW41106	
(vi)	Floor Complete	1 set	LE41100	
(vii)	AC System arrangement	1 set	LE44118	Except items 1 (AC Unit mounting) & 2 (AC Trough Mounting) of drawing no. LE44118. .
(viii)	Interior paneling arrangement	1 set	LE44001	
(ix)	Window arrangement	1 set	LE54100	
(x)	Doors arrangement	1 set	LE56001	Except item 6 (Entrance door mounting) of LE56001 in scope of RCF, Rest of all doors to be considered in firm's scope.
(xi)	Seat & berth arrangement	1 set	MI007106	As per Annexure-A
(xii)	Location of Interior Fittings	1 set	LE62100	

#	Description of items	Qty/ Coach	Scope as per Drawing	Special Conditions
(xiii)	Sanitary facility complete	1set	Item no. 1, 2,22,26,27, 28, 29,30,31,33 & 35 of LE63001 Alt-I.	MDTS_214 Rev_12 Coach Drawing for Outside Wash Basin and Dust Bin arrgt shall be as per drg no MI007920 with latest alteration . (along with additional items mentioned in Clause '7 & S.No C of Annexure 'A')
(xiv)	Fire extinguisher arrangement and mounting	1 set	1 10113.0.75.100.001	Location of Fire extinguisher shall be As per latest Drg.No MI007920
(xv)	Layout of lettering outside	1 set	LE64003	
(xvi)	Layout of lettering inside	1 set	LE64016	
(xvii)	Linen Room arrangement	1 set	LE64223	
(xviii)	Location of hammer box	1 set	LW64169	
(xix)	Fixing arrangement of aluminum extrusions	1 set	LE64001	
(xx)	Fire and smoke detection system	1 set	RDSO/2008/CG-04	
(xxi)	End wall paneling	1 set	1 10113.0.21.320.001	
(xxii)	Layout of curtain arrangement	1 set	LE64004	

**Table 3: Mechanical Items**

Note:

- Interior Color Scheme shall be as per this office letter no. MD22151 dated 06.06.2022.
- Latest alteration of all the above drawings shall be followed.

## 7.2 Electrical Items

### 7.2.1 Types of Light Fittings

The following types of light fittings shall be provided in the coach.

#	Description of items	Qty/ Coach	Scope	Reference drawing
(i)	Light Fittings		RCF Category Approved	
1	LED Light Fitting Type-L (18W) (for Cabin Area)	09 Nos		LW76090
2	LED Light Fitting Type-M (9W+1W) (Corridor Area)	09 Nos		LW76091
3	LED Light Fitting Type-N (9W) for doorway/Gangway Area	07Nos.		LW76099
6	Emergency light unit as per RDSO specification no.	1Set		Type-2

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

#	Description of items	Qty/ Coach	Scope	Reference drawing
	RDSO/PE/SPEC/AC/0180-2016 (Latest rev.) (01 Set consist of 4 nos. light fittings)			
7	LED Light Fitting for Passenger Alarm Chain Indication Type-I (5 W)	02 Nos		LW76098
8	LED Light Fitting for Toilet Indication Type-H-1 (1 W)	02 Nos		LW76097
(ii)	Modular type switch Plate Assembly	1 Set	RCF/ICF/MCF Regular & Proven Sources	EDML064 Rev.B, Am-4, Tab. 1B
(iii)	Double inlet Centrifugal Blower Fan Assembly	02 No.	RCF/ICF/MCF Regular& Proven Sources	EDTS-331, Rev.- A
(iv)	PA System for LACCN Coach	01 set	RCF/ICF/MCF Regular& Proven Sources	EDTS173, Rev. 'b' Type-3, Cor,1,2,3

**Table 4: Electrical Items:**

**NOTES:-**

**(A). Light Fitting:**

The above light fittings shall be procured as per latest version of drawings from RCF approved Category on UVAM only by the contractor with prior intimation to CEDE/RCF Office and provided in coaches keeping the fixing/interface requirements as per existing design.

The LED light fittings shall comply with the RDSO spec. No. RDSO/PE/SPEC/TL/0091-2016 (with latest Rev.).

Stainless Steel Hardware of suitable size shall be used for installation of Light fittings inside the coach & will be in firm's scope of supply

**(B). Switch Plate Assembly:-**

**Reference Document No. - EDML064 Rev. B, AM-4, Tab-1B  
(IS:3854& IS: 1293 (Latest))**

The general construction of the complete Modular type switch plate assembly in different areas of the coach shall generally be as per EDML064 Rev. B, AM-4, Tab-1B.

The above switch plate assemblies shall be procured from RCF/ICF/MCF regular & proven sources **with prior approval of CEDE/RCF Office** only by the contractor and provided in coaches keeping the fixing/interface requirements as per existing design.

Stainless Steel Hardware of suitable size shall be used for installation of Switch plate assemblies inside the coach & will be in firms scope of supply.

**C). Double inlet Centrifugal Blower Fan Assembly:**

The general construction of the Double inlet Centrifugal Blower Fan Assembly shall generally be as per specification **EDTS331 Rev.-A.**

The above fan assembly shall be procured from RCF/ICF/MCF regular & proven sources **with prior approval of CEDE/RCF Office** only by the contractor and provided in coaches keeping the fixing/interface requirements as per existing design.

Stainless Steel Hardware of suitable size shall be used for installation of Double inlet Centrifugal Blower Fan Assembly inside the coach & will be in firms scope of supply.

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

#### **D). PA system:**

The general arrangement of PA System shall be as per specification **EDTS173, Rev. 'b' Type-3, Cor, 1, 2, 3**

The above PA System shall be procured from RCF/ICF/MCF regular & proven sources **with prior approval of CEDE/RCF Office** only by the contractor and provided in coaches keeping the fixing/interface requirements as per existing design.

Stainless Steel Hardware of suitable size shall be used for installation of PA System inside the coach & will be in firms scope of supply.

#### **Special NOTE:-**

- a) Installation/Commissioning of Electrical Items which are in firm's scope shall also include hardwares (SS)/Crimping Lugs /WAGO Connectors etc. as per site requirement.
- b) If any modifications/accessories etc. are required as per site requirement will be in firm's scope of supply.

### **7.3 Technical requirements**

#### **7.3.1 Tolerances of coach shell dimensions**

Minor variations are likely in dimensions of the coach shell, due to fabrication tolerances. The same shall be taken into consideration.

#### **7.3.2 Management of expected shock and vibration for improved NVH**

During installation, it shall be ensured to control vibrations of items so that reliability/life is not affected and no damages take place.

#### **7.3.3 Availability of Raw Materials**

Raw material such as special upholstery for seats, special paint with specified shades should readily be available with the firm for repair and maintenance.

#### **7.3.4 Electrical Code of practice:**

The connections to all electrical items under the Scope of Supply/Installation shall be done by the contractor in accordance with the good Engineering practices and RDSO Code of Practice for Wiring in 750 volts EOG Generation Stock to specification no ELPS/SPEC/EOG/001 and for fire prevention in AC Coaches, refer RDSO Code of practice for Prevention of Fire in AC Coaches to RDSO specification no RDSO/PE/O/0008-2005 (Rev.-0).

The contractor shall handover the coach in fully ready condition for functional testing and QC clearance by Quality department after conducting the continuity test, IR testing on complete coach wiring and verification of various circuits at 110V DC& 110V AC level. Final electrical clearance shall be accorded by Dy CEE/EP/RCF.

### **7.4 Accessories and hardware**

The scope of supply installation testing commissioning includes all accessories including necessary hardware and consumables etc.

All items shall be proposed for approval by CDE/RCF&CEDE/RCF for Electrical items during the design approval process. Only approved items shall be used.

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

## 8 Project activity sequence

The following sequence shall be followed for the execution of the project.

### 8.1 Tender processing

Bidders shall participate in the tender on IREPS, and the tender shall be awarded as per the extant process.

Past performance of the bidder in RCF, MCF and ICF will be considered while evaluation of technical suitability.

### 8.2 Development of QAP and approval

The contractor's team in collaboration with RCF Team shall develop a QAP documenting the Hold and Witness points (stages, pre-dispatch, post-receipt and final inspections) for the project.

The final QAP shall be approved by RCF Design and Quality Assurance Divisions.

### 8.3 Dispatch of prototype furnishing kits to RCF/KXH

Contractor shall manufacture the furnishing kits as per the approved drawings and in conformance to the approved QAP and dispatch the same to RCF as per the advised schedule.

### 8.4 Assembly of furnishing kits at RCF/KXH

Work on the supplied furnishing kits, at RCF, shall be done as follows.

---

*Note: The furnishing kits assembly at RCF shall be done by contractor's manpower. RCF team shall supervise the activity. Modifications required to be done on the supplied items for enabling assembly shall also be done by the contractor's manpower.*

---

### 8.5 Installation of the furnishing kits on the prototype coach shells at RCF

The furnishing Contractor's team shall install the furnishing kits in the coach shells at RCF. One coach shall be furnished and finished.

### 8.6 Prototype Review

RCF and Contractor's teams shall jointly conduct detailed review. Observations shall be made during this exercise for improving the tolerances and quality of the final coach.

### 8.7 Review of modifications required in furnishing kits

The detailed observations and required modification information collected in the preceding activities shall be compiled and designs shall be updated in a collaborative process by the Contractor's and RCF teams.

### 8.8 Supply of change validation kits to RCF and fitment

The design changes planned in the preceding activities shall be implemented and the supply of remaining furnishing kits shall be made as per the updated designs.

The furnishing kits shall be supplied to RCF for assembly into shells as detailed earlier. Detailed observations shall be made for validating all design changes.

### 8.9 Go-ahead for series production of complete shells

A go-ahead shall be given to the contractor for supply of remaining furnishing kits and its installation on the successful completion of the previous activities.

### 8.10 Series manufacture and supply of furnishing kits and its installation

Once the go-ahead for series production is granted, the contractor shall start series production and supply the furnishing kits and its installation as per the advised schedule.

The contractor's team at RCF shall install these kits into the coach shells as per the schedule advised by Dy.CME/Fur/RCF.

## 9 Project Schedule

The planned project schedule is expected as detailed in the following table.

S.N.	Activity	Agency Responsible	Expected Duration (Days)	Expected Milestone Completion (Days)
1	Tender Finalization( Release of Purchase Order)	RCF/KXH	0	D+0
2	Manufacture and supply of prototype furnishing kits	CONTRACTOR	40	D+40
3	Installation of furnishing kits in prototype coaches	BOTH	10	D+50
4	Validation check and go ahead for series production	BOTH	5	D+55
5	Furnishing of ACCN coaches as per production plan	BOTH	As per RCF production Plan	As per RCF production Plan

**Table 5: Project Schedule**

Delivery Period will be 10 months after placement of Purchase Order.

## 10 Quality Assurance and Inspection Plan

A QAP framework document that been provided as an annexure to this document. The contractor shall use the same and prepare a QAP to ensure requisite quality throughout the progress of the project.

### 10.1 Quality Assurance, Tests & Documents

The following table provides the overview of the system for quality assurance: -

Requirement Description	Requirement Detail	Remarks
Quality Assurance Plan	The manufacturer shall have detailed quality assurance plan. The plan shall be submitted for approval by the indenter/purchaser. The QAP document shall clearly document the following and control the test record formats. 1. Control over outsourced products and processes 2. Testing of raw material and establishing it traceability. 3. Sampling Plan 4. Type Tests 5. Routine Tests 6. Acceptance Tests 7. Witness & Hold Points	The QAP shall be submitted in PDF softcopy, digitally signed by the Head of Quality Department of the manufacturer.
Type Tests	These tests shall be conducted as per the QAP and are normally required in case of change of design.	There records of the type tests shall be maintained by the manufacturer and shall be made available upon demand. These records shall be traceable and verifiable.
Routine Tests	The manufacturer shall conduct routine tests as per the approved QAP. The records of tests conducted shall be verifiable upon request.	The records of the type tests shall be maintained by the manufacturer and shall be made available upon demand. These records shall be traceable and verifiable.



Requirement Description	Requirement Detail	Remarks
Acceptance Tests	The acceptance test shall be conducted on batches offered for delivery. The tests shall be conducted as per the details mentioned elsewhere in the document.	These shall be conducted by the consignee or their authorized agency prior to dispatch. All infrastructures required to enable acceptance tests shall be provided by the bidder /OEM.

**Table 6: Quality Assurance Tests & Documents**

*Note- The fire retardant tests as per EN 45545 -2 shall be conducted by either NABL accredited Lab for these testes or Testing lab accredited as per ISO/IEC-17025 to perform/ conduct fire test as per EN45545-2.This shall supersede the relevant clause of the respective specification referred in the scope..*

## 10.2 Inspection Plan

The inspection plan shall be proposed by the contractor based on the QAP framework provided as an annexure to this document. This plan shall be proposed as a set of the following events:

- Hold Points:** means an identified point in a process beyond which the Contractor must not proceed without written authorization or the release of a designated authority of RCF or 3<sup>rd</sup> party agency duly authorized by RCF.
- Witness Points:** means an identified point in a process where the Contractor must give prior notice to RCF to allow a designated authority of RCF or 3<sup>rd</sup> party agency duly authorized by RCF, to attend and witness the point in the work process should it choose to do so.

The inspection plan shall be reviewed and agreed jointly by RCF and the contractor.

## 11 Provisioning of facilities for working

The following shall be the distribution of provisioning of facilities for working during the course of the project.

### 11.1 Facilities to be provisioned by RCF at RCF/KXH

RCF shall provide the following provisions, free of costs, for enabling the contractor working at RCF premises only.

- RCF shall provide limited space inside covered shed (not enclosed) to the contractor for keeping the material/consumables& tools required for day-to-day work.
- RCF will provide suitable cranes with drivers, as available at RCF/KXH, for loading unloading of sub-assemblies at RCF/KXH.
- RCF will provide bare coach shells fitted atop dip-lorries at the designated places for working. The necessary assistance for movement of shells to the designated places shall be done by RCF/KXH.
- Power supply, Compressed Air (@ approximately 2-3 kg/cm<sup>2</sup> pressure) and water etc. for working at site shall be provided by RCF/KXH. These shall be put to judicious use and only for activities related to the project.
- Access to toilets and drinking water facilities shall be provided at RCF/KXH.

### 11.2 Facilities to be provisioned by the contractor

- Contractor shall deploy a site office structure in ISO container(s) to function as site office and site tools and material storage. The site office shall be setup by the contractor and removed and taken away by the contractor at the end of the contract.
  - The site office shall be self-contained, however electrical supply shall be provided by RCF at RCF/KXH.

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

- 1.2. The maximum footprint of the site office and store shall be limited to 2x40' containers. Double stacking can be permitted where required.
- 1.3. Special cranes & lifting tackles for deployment and removal of the containers shall be provided where needed.
2. Material handling equipment and fork lifters with drivers.
3. Welding and other consumables required for assembly activities and modifications done at RCF/KXH.
4. All workbenches, hand tools, IMTE's with their respective spares and consumables.
5. Ladders / Maintenance Access Platforms / Manlifts Hand trolleys / powered trolleys for transporting tools and IMTE's.
6. Any other tools & plants required for progress of work (and not explicitly listed in facilities provided by RCF/KXH) shall be the contractor's responsibility.

#### **11.2.1 Safety and performance of tools and equipment of the contractor**

All the tools and equipment e.g., drills, lighting arrangement inside the coach, work benches, ladder & working platform etc. as required to execute work as per scope of work shall be arranged by the contractor. The contractor shall use safe tools. Proper extension boards shall be used. Extension wires with joints and without insulation shall not be used. All the electrical power tools shall be equipped with proper electrical plugs.

---

*Note: The contractor shall be responsible for keeping all assigned areas clean and injury free during the progress of the contract.*

---

## **12 General Terms & Conditions**

The following terms and conditions shall be applicable for the project. These are considered in addition to statutory, regulatory requirements and IRS standard conditions.

### **12.1 Intellectual Property Rights (IPR)**

RCF shall be providing detailed 3D Models and manufacturing processes documentation to the bidders / contractors. The contractors are expected to ensure that all such documents having IPRs are not transferred to third parties without prior written approval of CDE/RCF.

---

*Note: The models, drawings, documents etc. shall be provided in the respective native formats. If there is a need for conversion of formats, the same shall be mutually agreed.*

---

The contractor can seek permission to use the available IPR for third party applications from CDE/RCF. The same shall be sought in writing prior to such use.

---

*Note2: All information shared and developed during the progress of this contract shall be the property intellectual property of RCF/KXH. As such, the contractor shall ensure that this information is not shared to a 3<sup>rd</sup> party or put to any other end use (other than to work as per the scope of this contract) kindly also see the undertaking mandated at Annexure 4.*

---

The decision of CDE/RCF, regarding permission to use such IPR for third party applications shall be final and binding.

### **12.2 Sub-contracting and outsourcing**

The contractor may sub-contract or outsource as per requirement. The following must be complied under these conditions

1. Prior approval shall be taken from RCF/KXH.

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

2. The confidentiality of shared information is ensured.
3. The contractor shall remain responsible for meet all conditions and requirements of this contract, even in case of outsourced items and services. (The responsibility does not shift to the sub-contractor).

### 12.3 RCF production plan

All body shells to be furnished as per production plan of RCF; Supply schedule of coach will be in staggered manner and will be manufactured and supplied as per agreed scope and schedule after prototype approval .Planned project schedule is mentioned at Para 9.0. After clearance of first Prototype Coach from quality deptt. or as communicated by Dy.CME/Fur/RCF, supplier will supply furnishing material within one month. Supplier will furnish @25-30 coaches per month. Cycle time of furnishing & finishing of coach including quality clearance will be maximum 15 days from allotment of shell for furnishing by Dy.CME/Fur/RCF. Any delay on RCF account during this cycle will be added in the cycle time of 15 days. Shop and supplier, both will jointly maintain records of handing over of Shell.

### 12.4 Safe keep during storage and transit

The contractor shall be responsible for safe transporting and loading/un-loading of supplied products. Adequate measures shall be taken to avoid damage to surface body shell surface during transport/storage.

### 12.5 RCF right to inspect and audit

RCF shall have the right to take item/assembly supplied by the firm into Audit for checking of parameters as per laid down procedure.

### 12.6 Handling of changes post approvals

Any changes from approved models, detailed part drawings, BoM, material specifications shall be done via a design approval process and be released for implementation with the approval of CDE/RCF.

Any modification arising out of design review process shall be incorporated by the firm in bulk supply without any financial implication.

### 12.7 Sourcing of raw material and assemblies

Vendor directory Items to be procured from RDSO/RCF/ICF/MCF approved sources as per applicable drawings and specifications at the time of opening of tender.

Other items to be procured from only sources those have got their prototype /FAI approved by ICF/MCF /RCF. Any exception to be reported and approval taken.

### 12.8 Change in quantity distribution

The quantity distribution between successful bidders can be changed based on the performance in due course of the turnkey project. The firm lagging in completion of work or with poor quality shall be penalized with reduced quantity as decided by the competent authority.

### 12.9 Damage to RCF property

In case of any damage to RCF property, Coach Item or Shell during commissioning, the same shall be repaired/replaced by the Firm. In case any alternation in shell is required, prior approval of competent authority is required.

### 12.10 Damaged to supplied / fitted materials

Any item supplied by firm damaged during commissioning or before the issue of Completion Certificate; the same is to be replaced by the firm as free of cost.

### 12.11 Requirement of Contractor's Personnel

#### 12.11.1 Site Manager

Contractor shall deploy at least 1 dedicated site manager in charge of all activities at the wok sites including workers safety and management of materials.

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

### 12.11.2 Identification

All contractors' workers shall be duly identified and shall always carry a contractor provided ID card on their person during their presence on the shop floor at RCF/KXH.

### 12.11.3 Qualifications of personnel

The contractor shall ensure that all personnel deputed are duly qualified and have adequate experience to handle the delegated jobs.

---

*Note: The contractor shall provide the detailed CV of all personnel of their team deputed to work at RCF/KXH.*

*The contractor shall ensure that the technicians having experienced on working on first prototype coaches are not changed/replace till the execution of whole contract.*

---

### 12.11.4 Adequate manpower

All coaches to be furnished as per production plan of RCF. Contractor shall depute adequate manpower to ensure the production targets.

### 12.11.5 Working dress and PPE

All contractors' workers shall be suitable attired and shall be wearing the requisite PPE's for the job.

The following minimal PPE's shall be worn by all contractor personnel at all times during their presence on shop floors of RCF/KXH

1. Hardhat with contractor's logo / name
2. High visibility vest with contractor's logo / name
3. Industrial safety shoes

---

*Note1: Jeans and T-shirts with the contractor's logo / name, may be considered as shop floor uniform for the contractor's team.*

*Note2: The contractor shall be solely responsible for the orderly and proper conduct of his staff during the period of work inside the RCF/KXH. The staff shall be polite and courteous.*

---

### 12.11.6 Workplace maintenance and housekeeping

The contractors' personnel shall ensure that the necessary housekeeping activities are done constantly to keep the assigned workplace neat and tidy all through the working periods. This is required to ensure safety of personnel on the shop floor.

Proper housekeeping processes shall be followed to clean the work areas at the end of shifts to ensure a clean workplace is handed over for the next shift.

### 12.11.7 Fines

1. If any safety instruction is not adhered to and if any of the contract worker is found without PPE, penalty for the same shall be applied @ ₹ 500/person-day.
2. Chewing of Pan/Gutka/ any intoxicant is strictly prohibited at workplace, violations shall attract a penalty @ ₹ 500/person-day.
3. A penalty @ ₹ 1000/- per shift shall be applicable if the workplace is found short on housekeeping activities.

## 12.12 COVID-19 Safety

COVID-19 guidelines issued by Government of India/RCF/Punjab/State Govts are to be followed.

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

## 12.13 Compliance of Statutory & Regulatory requirements

All compliances with respect to statutory and regulatory requirements for the activities handled by the contractor shall be ensured by them.

## 12.14 Indemnification of RCF

The contractor shall provide a written undertaking to indemnify RCF from action resulting from breach of compliance of statutory and regulatory requirements for activities handled by them.

## 12.15 Miscellaneous Term and Conditions

### 12.15.1 Quality Management

The Contractor shall maintain prescribed quality of work and good workmanship.

If any quality deviation is identified, necessary corrective and preventive actions shall be taken by the Contractor at the first instance of identification. If the Contractor fails to maintain the required quality standards and gets repeated rejection/rework, the contract will be terminated. Further action may be taken to duly disqualify the firm from quoting for future tenders.

### 12.15.2 Communication & Coordination

The contractor shall ensure proper communication and coordination with nominated personnel of RCF/KXH for progress connected to the project.

### 12.15.3 Stage inspection Hold & Witness Points

Stage Inspections, as required work shall be carried out by authorized personnel of RCF/KXH. The schedule of such inspections shall be prepared jointly by the RCF and contractor in the form of "Hold & Witness Points"

The contractor shall offer for inspection in writing after completion of work duly indicating the date of work and Shell number. Any inspection points raised on the installation work done till the dispatch of the coach, shall be cleared by the Contractor before turning out of coach.

### 12.15.4 Record of activities, instructions, and compliances

The contractor shall maintain proper record of all activities, instructions and compliances in a register which will be checked periodically by concerned nominated personnel of RCF/KXH.

## 12.16 Errors omissions & discrepancies

The bidder(s)/contractor shall not take advantage of any misinterpretation of the conditions due to typing or any other error and if any doubt shall bring it to the notice of CDE/RCF without delay in case of any contradiction.

Only the printed rules and books should be followed and no claim for the misinterpretation shall be entertained.

## 12.17 Worksites

The furnishing work shall be carried out at designated places at RCF/KXH. However, if situation warrants and corrective activities may be required to be carried out at the coach holding depots. No extra charges shall be acceptable on the change of worksite.

## 13 Guarantee/Warranty and Spares

The expected life of the coach furnishing is more than 6 years. The supplier shall provide a warranty for all supplied items for a period of 3 (three) years from date of fitment or 3.5 (3 years 6 months) years from the date of supply whichever is earlier. However, the expected life for LED type Luminaries shall be for 60 months from date of commissioning or 72 months from date of supply which is earlier as per CI .11.0 of RDSO Specification RDSO/PE/SPEC/TL/ 0091 Rev.-1(latest)

### 13.1 Attention on site

Warranty claims will be applicable as per IRS terms and conditions. The warranty complaints/issues to be attended at respective depot.

RAIL COACH FACTORY, KAPURTHALA, PUNJAB 144602	Printed: 2023-12-19 Page 18 of 34
---	--------------------------------------

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

## 13.2 Preventive Maintenance during warranty

Preventive maintenance of all the items in the scope of turnkey is to be carried out by the contractor for a period specified at the primary maintenance depot from the date of dispatch of coach from RCF.

## 14 Payment Milestones and Terms

1. The first tranche of payment shall be released upon completion of 5 coaches and all 5 coaches successfully clearing quality inspection including prototyping of the 1<sup>st</sup> coach & quality checks.
  - 1.1. Initially 70% of total material cost shall be payable.
  - 1.2. The remaining 20% shall be released upon successful completion of the coaches.
2. Thereafter payments shall be released in tranches of minimum 5 coaches.
  - 2.1. 70% of amount shall be released upon delivery and acceptance of material at RCF/KXH.
  - 2.2. 20% amount shall be released upon successful completion of the furnishing and finishing of the coaches.
3. The remaining 10% shall be retained as the performance guarantee for the duration of the warranty period. The contractor may submit an irrevocable bank guarantee, or any other suitable / acceptable instrument mandated by the purchase officer, to release the 10% amount withheld.
  - 3.1. The contractor can request for release of 20% + 10% payment in one go by submitting completion certificate and the performance guarantee financial instrument together.

---

*Note: Performance guarantee shall be released on completion of the warranty period and upon NOC provided by the primary maintenance depot of the coaches.*

---

## 15 Penalties

### 15.1 Penalty for non-completion of the coach work

Penalty of Rs. 5000 per day per coach shall be levied upon the contractor if he/she is not able to fit/install the material supplied and clear the coach from the Quality department as per the agreed scope and schedule.

### 15.2 Attention during warranty

A trouble-free operation of contractor supplied items is expected.

Warranty claims will be applicable as per IRS terms and conditions. Warranty complaints/ issues to be attended at respective depot.

Preventive maintenance of all the items in the scope of the turnkey is to be carried out by the contractor for a period specified in IRS conditions at the primary maintenance depot from the date of dispatch of coach from RCF.

## 16 Information to be provided by bidder / contractor

The following information shall be provided by the bidder / supplier.

### 16.1 Information to be provided at the time of the bid

The following information shall be included with the bid. These documents shall be used to determine suitability for placement of purchase orders.

S. No.	Information to be provided	Important Note
1.	Previous supply credentials / testimonial as required establishing the eligibility.	The document shall contain the contact details (phone number / email-ID) of the purchasers. These may be contacted by the purchaser for performance feedback.

**Table 7: Information to be provided with the bid**

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

## 16.2 Information to be supplied with the material consignment

S. No.	Information to be provided	Important Note
1.	Test Certificates for routine tests (as detailed in the QAP) conducted by the manufacturer or third-party agencies.	The test certificates shall be traceable and verifiable.
2.	Test Certificates for acceptance tests (as detailed in the QAP) conducted by the manufacturer or third-party agencies.	The test certificates shall be traceable and verifiable.
3.	Complete packing list for the consignment.	

**Table 8: Information to be provided with material consignment**

## Annexure- 1

### Format of Power of Attorney for signing of Bid (To be executed on stamp paper of appropriate value)

Know all men by these presents, We, ..... (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorise Mr./Ms (Name), son/daughter/wife of ..... and presently residing at ....., who is presently employed with us/the Lead Member of our Consortium and holding the position of ....., as our true and lawful attorney (hereinafter referred to as the "Attorney") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our bid for the ..... Project proposed or being developed by the ..... (the "Railways") including but not limited to signing and submission of all applications, bids and other documents and writings, participate in bids and other conferences and providing information/responses to the Railways, representing us in all matters before the Railways, signing and execution of all contracts and undertakings consequent to acceptance of our bid, and generally dealing with the Railways in all matters in connection with or relating to or arising out of our bid for the said Project and/or upon award thereof to us.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, ....., THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS ..... DAY OF ....., 20.....

For.....  
(Signature, name, designation and address)

Witnesses:

- 1.
- 2.

Accepted

Notarised  
(Signature, name, designation  
and address of the  
Attorney)

Signature and stamp of the bidder

Note:- 1. TO BE NOTORIZED  
2. TO BE SUBMITTED IN ORIGINAL

Notes:



Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

(i) The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.

(ii) Wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board or shareholders resolution/power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.

(ii) For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Apostille certificate.

Signature and stamp of the bidder

## Annexure- 2

### Format for Power of Attorney for Lead Member of Consortium (To be executed on stamp paper of appropriate value)

Whereas the ..... (the "Railways") has invited bids from pre-qualified and short-listed parties for the ..... Project (the "Project").

Whereas, ....., ..... and ..... (collectively the "Consortium") being Members of the Consortium are interested in bidding for the Project in accordance with the terms and conditions of the Request for Proposals and other connected documents in respect of the Project, and

Whereas, it is necessary for the Members of the Consortium to designate one of them as the Lead Member with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium's bid for the Project and its execution.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS

We, ..... having our registered office at ....., M/s. ...., having our registered office at ....., and M/s. ...., having our registered office at ....., (hereinafter collectively referred to as the "Principals") do hereby irrevocably designate, nominate, constitute, appoint and authorise M/s ....., having its registered office at ....., being one of the Members of the Consortium, as the Lead Member and true and lawful attorney of the Consortium (hereinafter referred to as the "Attorney") and hereby irrevocably authorise the Attorney (with power to sub-delegate) to conduct all business for and on behalf of the Consortium and any one of us during the bidding process and, in the event the Consortium is awarded the Agreement/Contract, during the execution of the Project, and in this regard, to do on our behalf and on behalf of the Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the submission of its bid for the Project, including but not limited to signing and submission of all applications, bids and other documents and writings, accept the Letter of Award, participate in bidders' and other conferences, respond to queries, submit information/documents, sign and execute contracts and undertakings consequent to acceptance of the bid of the Consortium and generally to represent the Consortium in all its dealings with the Railways, and/or any other Government Agency or any person, in all matters in connection with or relating to or arising out of the Consortium's bid for the Project and/or upon award thereof.

AND hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us/Consortium.

IN WITNESS WHEREOF WE THE PRINCIPALS ABOVE NAMED HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS ..... DAY OF ....., 20....

Signature and stamp of the bidder

For.....  
(Signature, Name & Title)

For.....  
(Signature, Name & Title)

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

For.....  
(Signature, Name & Title)

(Executants)  
(To be executed by all the Members of the Consortium)

Witnesses:

1.

2.

Note:-

1. TO BE NOTORIZED
2. TO BE SUBMITTED IN ORIGINAL

Notes:

(i) The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.

(ii) Wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board or shareholders resolution/power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.

(iii) For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Apostille certificate.

Signature and stamp of the bidder

## Annexure- 3

### Format for Consortium/Association Agreement

The Partners of the Consortium shall provide Consortium/Association Agreement for Association/ Participation which includes at least the followings:

M/s \_\_\_\_\_ having its registered office at \_\_\_\_\_ (hereinafter referred to as) is the Lead Partner of the Consortium/Association and acting as the authorized representative of the Consortium on first part; and

M/s \_\_\_\_\_ having its registered office at \_\_\_\_\_ (hereinafter referred to as \_\_\_\_\_) in the capacity of a Joint Partner of the Consortium/ Association on the other part.

The expression of \_\_\_\_\_ and \_\_\_\_\_ and \_\_\_\_\_ shall wherever the context admits, mean and include their respective legal representatives, successor interest and assigns and shall collectively be referred to as "the Parties" and individually as "the Party"

WHEREAS:

Rail Coach Factory, Kapurthala [hereinafter referred to as "Employer"] has invited bids for

[Put tender details here]

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. The following documents shall be deemed to form and be read and construed as an integral part of this Consortium/Association Agreement.
  - i) Invitation for bid;
  - ii) Bid Documents issued by the Employer
  - iii) Any Addendum/Corrigendum to the Bid Documents issued by the Employer
  - iv) The Bid submitted on our behalf jointly by the Authorized Signatory from the Lead Partner.
2. The 'Parties' have studied the Bid Documents and have agreed to participate in submitting a 'Bid' jointly.
3. Mr./Ms. \_\_\_\_\_ authorized Signatory of the Lead Partner and whose details are provided as under, shall be the Authorized Signatory of the Consortium/ Association for all intents and purpose. He/She shall have the authority to conduct all business for and on behalf of any and all the Partners of Consortium/Association during the bidding process and in the event the Consortium/Association is awarded the contract, during contract execution.

Name,	Designation,	Address,	Tel/Fax no	Email ID
-------	--------------	----------	------------	----------

4. We undertake that
  - a) The Lead Partner of our Consortium/Association \_\_\_\_\_ (Name of the Lead Partner) shall have the maximum financial stake amongst the other partners of the Consortium/ Association.
  - b) The distribution of responsibilities in execution of work and the percentage participation amongst various Partners of the Consortium for the subject work shall be as under:

SN	Name of the Partner	Role (Lead Partner/ Partner)	Distribution of Responsibilities in execution of the work	% Participation

## 5. JOINT AND SEVERAL RESPONSIBILITY

The Parties undertake that they shall be jointly and severally liable to the Employer in the discharge of all the obligations and liabilities as per the contract with the Employer and for the performance of contract awarded to their Consortium/Association.

In case one party fails or delays to perform its obligations either partially or totally, it shall be responsible for all the out comings concerned, and upon such conditions the other parties shall be obliged to take measure to perform well all the obligations under the contract with the Employer.

## 6. ASSIGNMENT AND THIRD PARTIES

The Parties shall cooperate throughout the entire period of this Consortium/Association Agreement on the basis of exclusivity and neither of the parties shall make arrangement or enter into agreement either directly or indirectly with any other party or group of parties on matters relating to the Work except with prior written consent of the other party.

## 7. EXECUTIVE AUTHORITY

The said Consortium/Association through its Authorized Signatory (as specified above) shall receive instructions, payments from the Employer. The management structure for the work shall be prepared by mutual consultations to enable completion of the work of quality requirements within permitted cost and time.

## 8. GUARANTEES

Till the award of the work, all the Bank guarantees to the Employer shall be furnished in the name of the Consortium/Association or by the Lead Partner on behalf of the Consortium/Association which shall be legally binding on all the partners of the Consortium/Association.

## 9. DOCUMENTS & CONFIDENTIALITY

Each party shall maintain in confidence and not use for any purpose other than those related to the project all commercial and technical information received or generated in the course of preparation and submission of the Bid.

## 10. ARBITRATION

Any dispute, controversy or claim arising out of or relating to this agreement shall be settled in the first instance amicably between the parties. If an amicable settlement cannot be reached as above, it will be settled by \_\_\_\_\_ [Bidder to specify]

## 11. VALIDITY

This Agreement shall remain in force till the occurrence of the earliest to occur of the following, unless by mutual consent, the Parties agree in writing to extend the validity for a further period.

- The bid submitted by the Consortium/Association is declared unsuccessful, or
- Cancellation/shelving of the project by the Employer for any reason prior to award of work
- Execution of detailed Association/Consortium agreement by the parties, setting out detailed terms after award of work by the Employer, substantially covering the requirement as mentioned in Bid Documents.

12. This Consortium/Association Agreement shall be construed under the laws of India.

## 13. NOTICES

The name, addresses and fax numbers of Authorized Signatory of the other partners of the Consortium/Association to which notices may be given in writing by fax confirmed by registered mail or commercial courier shall be as under:

- \_\_\_\_\_ [Name], \_\_\_\_\_ [Designation], \_\_\_\_\_ [Address], \_\_\_\_\_ [Ph. No., Fax No. , E-mail ID]
- \_\_\_\_\_ [Name], \_\_\_\_\_ [Designation], \_\_\_\_\_ [Address], \_\_\_\_\_ [Ph. No., Fax No. , E-mail ID]

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

c) \_\_\_\_\_ [Name], \_\_\_\_\_ [Designation], \_\_\_\_\_ [Address], \_\_\_\_\_ [Ph. No., Fax No. , E-mail ID]

14. Any Other Clause, the Bidder wish to include

(For Bidders in India to be execute on non-judicial stamp paper of appropriate value. For Bidders from outside India, to be executed according to the applicable laws in the Bidder's country and by taking into account the Notes shown below).

Notes:

1. In case of existing Consortium/Association, the certified copy of Consortium/Association Agreement may be furnished.
2. The mode of execution should be in accordance with the procedure, if any, laid down by the applicable law in the bidder's country and the charter documents of the executants(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
3. Whenever required, the Bidder should submit for verification the extract of the charter documents and the shareholder resolution in favour of the person executing this document on behalf of the bidder.
4. For a required document executed and issued overseas, the document will also have to be legalized by the Indian Embassy in the Bidder's country and notarized in the jurisdiction where it is being issued. However, documents provided by Bidders from countries that have signed the Hague Legislation Convention 1961 are not required to be legalized by the Indian Embassy, if they carry a conforming Apostille certificate.

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

## **ANNEXURE 4**

### **CONFIDENTIALITY & PERMITTED USE UNDERTAKING (On Bidders Letter Head)**

I, \_\_\_\_\_ (the name of tenderer/contractor), the undersigned (hereafter addressed as contractor), do hereby declare and confirm that I am aware that I may be assigned by Rail Coach Factory, Kapurthala, to render certain services as tendered for in tender number \_\_\_\_\_ date \_\_\_\_\_.

In connection therewith, I hereby undertake and agree as follows:

#### **Certain Definitions**

- (a) "Confidential Information" means any data, documents, materials, or other information disclosed to me in connection with the Services, in any form whatsoever, whether orally, visually, in writing or otherwise (including in computerized or electronic form).
- (b) "Permitted Purpose" means the use of the Confidential Information to perform the Services.

#### **The Contractor's Confidentiality Obligations**

- (a) I understand that the Contractor is subject to confidentiality obligations pursuant to the information supplied as a part of specifications for the abovementioned tender.

#### **Undertakings**

- (a) I undertake to conduct myself and render services with a view to ensuring full compliance of Conditions of Contract for the Provision of Services.
- (b) I shall:
  - (i) use the same care and discretion to avoid disclosure, publication, or dissemination of the Confidential Information as I use with my own similar information that I do not wish to disclose, publish, or disseminate; and,
  - (ii) Use the Confidential Information solely for the Permitted Purpose.
- (c) I hereby undertake that in the case of this tender being awarded to another party, or upon the request of the Rail Coach Factory, Kapurthala, I shall immediately return (or destroy) all Confidential Information disclosed to me or to which I had access during or as a result of the process of tendering, together with all copies thereof.
- (d) I understand that in the case of the contract being awarded to us, this requirement of confidentiality stands and shall be applicable throughout the contract. I shall immediately return (or destroy) all Confidential Information disclosed (together with all copies thereof) to me or to which I had access during or because of the process of servicing the tender and the following contract.

**SIGNED:**

Name:

Date:

Place:

## Annexure 5

### QAP Framework

#	Components & Operation	Characteristic to be Checked	Type/Method of Checks	Acceptance Norms	Format of Record	Agency					Remarks
						Performed By	Witnessed By	Review & Approval By			
A	B	C	D	E	F	G					H
1	Mechanical design and fabrication drawing	Design and drawings.	Review and approval by CDE	As per approved drawing & specification	Submission of drawing by vendor	Vendor	Vendor	RCF			
2	Raw material & consumable	Sources of raw material.	Review and approval by CDE/RCF	As per approved drawing & specification	Material test certificates	Vendor	Rites / Vendor	Rites/RCF			
		Physical and chemical testing methodology.									
		Check points									
		Acceptance WTC items.									
		Identification of bought out of item/process/hardware etc									
3	In Process	Flow chart of processes.	Review and approval by firm	As per approved drawing & specification	Manpower qualification record	Vendor	Vendor	RCF			
		Holding points in process									
		Identification of special process and control									
		In-process inspection and test detail									
		Dealing with non-									



#	Compon ents & Operati on	Characteri stic to be Checked	Type/Met hod of Checks	Accepta nce Norms	Forma t of Recor d	Agency					Rem arks
						Perfo rmed By	Witne ssed By	Review & Approval By			
A	B	C	D	E	F	G					H
		conforming items/raw material.									
		Quality control procedure for bought out items			Material test certific ates						
		Stage inspection									
		Rectificatio n and conformity									
4	Material Identific ation and sample collectio n	Material Identificati on with MTC and sample collection	Identificati on and testing of material (Chemical & Mechanic al Tests)	Related drawing & specifica tion	Material Identifi cation Report and Sampl e analysi s report	Vend or	Rites / Vend or	Rit es/ RC F			
5	All Brought item	Reputed make as per Technical Specificati on	Instruction manual	Related standard s	Details produc t specific ation	Vend or	Rites / Vend or	Rit es/ RC F			
6		Flooring arrangeme nt: 1.Visual 2 Leakage check of PVC joints	As per Drawing and Specificati ons								
		Partition frame	As per Drawing and Specificati ons								
		Seating arrangeme nt: 1.Arrange ment Dimension al Check 2.Function al Check	As per Drawing and Specificati ons								
		Doors: 1.Function al Checks 2.Arrange ment	As per Drawing and Specificati ons								

#	Components & Operation	Characteristic to be Checked	Type/Method of Checks	Acceptance Norms	Format of Record	Agency					Remarks
						Performed By	Witnessed By	Review & Approval By			
A	B	C	D	E	F	G					H
		Dimensional Check									
		FRP Paneling & Ceiling: 1.Visual	As per Drawing and Specifications								
		Lavatory Module and sanitation facilities: 1.Functional Check 2.Leak Check/	As per Drawing and Specifications								
		CCTV &PAPIS 1.Functional Check	As per Drawing and Specifications								
		Window: 1.Functional Check 2.Leak Check	As per Drawing and Specifications								
		Roller Blind 1.functiona l Check	As per Drawing and Specifications								
		Fire &Smoke Detection system: 1.Functional Check	As per Drawing and Specifications								
		Fixing arrangement of Almirah	As per Drawing and Specifications								
		Painting System: 1.DFT 2.Gloss	As per Drawing and Specifications								
		Luggage rack 1 Visual Check 2 Load Check as	As per Drawing and Specifications								

#	Components & Operation	Characteristic to be Checked	Type/Method of Checks	Acceptance Norms	Format of Record	Agency					Remarks
						Performed By	Witnessed By	Review & Approval By			
A	B	C	D	E	F	G					H
		per UIC-566									
		Layout of lettering 1 Visual 2 Adhesion test	As per Drawing and Specifications								
		Light & electrical Fittings: 1.Functional check 2.Safety checks	As per Drawing and Specifications								
7	Final inspection	Pull down test	As per Drawing and Specifications		Inspection Report	Vendor	Rites / Vendor	Rites/RCF	Vendor		
		Alignment Orientation Dimensions	Visual Measurement	Final Approved Drawings							
		Leak Testing	Shower Test	Shower test	Test reports	RCF	Rites / Vendor	RCF			
8	Cleaning and Packing	Cleaning of equipment	Visual	Approved procedure/ASTM	Report	Vendor	Rites / Vendor	Rites/RCF	Vendor		
		Packing	Visual	Safe and suitable as per standard engineering practice							

Annexure-A	Seat & Berths
<p><b>Special Conditions:</b></p> <p>The seat &amp; berths shall have following major constituents complying with the following requirements:</p> <p>The bidder shall manufacture seat and berths with pre inspected material from M/s RITES as per following specification:</p> <p>(1) Cushioning material:</p> <ul style="list-style-type: none"> <li>The Cushioning Material to be procured from the approved sources of RCF Vendor Directory.</li> <li>The Cushioning material shall be either PU foam to MCF specification MMDTS-19020 Rev-05 or silicon foam to RDSO specification RDSO/2013/CG-13 and fire properties compliant to R21 HL-3 of EN45545 standard.</li> <li>Cushion may be directly molded or fabricated from Slab. The continuous slab to be used for manufacturing of the cushion shall have thickness not less than the minimum thickness of the cushion specified in the drawing.</li> <li>The fire retardant tests as per EN 45545 -2 as specified in specification may also be conducted from RDSO approved Labs or from the labs as prescribed in the respective specification.</li> </ul> <p>(2) Felt :</p> <ul style="list-style-type: none"> <li>The Felt Cloth to be used as specified in the relevant drawings.</li> <li>Felt to be procured from the approved sources of RCF Vendor Directory for fire barrier Cloth.</li> <li>The functional requirement shall be as per MCF Spec MMDTS-19021 Rev-03 or latest with amendments.</li> <li>The fire retardant tests as per EN 45545 -2 as specified in specification may also be conducted from RDSO approved Labs or from the labs as prescribed in the respective specification.</li> </ul> <p>(3) Top covering Artificial Leather:</p> <ul style="list-style-type: none"> <li>The top covering artificial leather to be procured from approved sources of RCF Vendor Directory.</li> <li>The functional requirement shall be as per RDSO/2008/CG-07 with latest amendments and corrigendum. The upholstery shall meet the all parameters as specified in the specification.</li> </ul> <p>(4) Fire Barrier Cloth:</p> <ul style="list-style-type: none"> <li>The fire barrier Cloth to be procured from the approved sources of RCF Vendor Directory.</li> <li>The functional requirement shall be as per MCF Spec MMDTS-19021 Rev-03 or latest with amendments.</li> <li>The fire retardant tests as per EN 45545 -2 as specified in specification may also be conducted from RDSO approved Labs or from the labs as prescribed in the respective specification.</li> </ul> <p>Note:</p> <p>(i) Fire barrier Cloth is in the scope of supply and to be provided in the Seat &amp; Berth assembly for all type of Seats with PU Cushion as per MMDTS-19020 and not required in case of Silicon foam as per RDSO/2013/CG- 13.However felt shall be used as specified with both type of Cushions.</p>	

Document No:	RCF-MD-PS-2023-3	Revision No: 3	Date Issued:19/12/2023
Specification Title: Purchase specifications of Supply & Fitment of Complete Furnishing of AC-3T Coaches on Turnkey Basis			

(ii) Fire Barrier Cloth has to be wrapped all around on the Cushion foam with covering the top and side of Cushion and 50mm from the bottom of the cushion for LHB AC type Coaches.