L3T-729

	Modern Coach Factory Raebareli **आधुनिक रेल डिब्बा कारख़ाना, रायबरेली**	DOC NO.: MCF/RBL/QMF 8002 REV NO: 00 DATE: 16.05.2016

ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: MCF/RBL/QC/RSC/2017-18/414

Coach No.	1	7	9	7	4	/	C	-	DATE OF DISPATCH	1	2	-	1	2	-	1	7

RLY	C	R	-	-	Type	L	W	A	C	C	N	Shell No.	7	3	1	8	2	-	2	0	1	7	-	1	8

1. Railway Board's Order No. : **2017/M/(C)/142/2 dated -01-11-2017**
2. Tare Weight of Coach : 45.6 Tonnes
3. Carrying Capacity : (a) Seating: 72 (b) Sleeping: 72 (c) Luggage: NIL

4. SHELL LEADING DIMENSIONS:

S NO	DESCRIPTION	DIMENSION (MM)
1.	Maximum length over body	23700
2.	Maximum width over body	3240
3.	Maximum height from Rail Level	4250
4.	CBC height/Buffer height from Rail level 1105 +0/-10	1) 1096 (NPPE) 2) 1099 (PPE)

5. TRACEABILITY OF SHELL ITEMS:

S NO	ITEM		MAKE/SUPPLIER	SERIAL NO			
1.	Underframe	Front Part	M/s Shivalic fastners pvt.ltd. mohali	PP END	14	NPP END	14
		Complete	M/s Shivalic fastners pvt.ltd. mohali				
2.	Side wall		M/S MCF/RBL	RH	73182	LH	73182
3.	End wall	PP END	M/s Amit Engg,	PP END	73182	NPP END	73182
		NPP END	M/s Amit Engg,				
4.	Roof		M/S MCF/RBL				
5.	Centre Buffer Coupler		M/S Escorts ltd railway equipment FBD	PP END	1404	NPP END	1346
6.	Buffers		n.a				

6. AIRBRAKE TEST REPORT:

S NO	ITEM	DESCRIPTION	SPEC. VALUE	OBSERVED
1.	Full brake application	➢ Reduce pressure of BP from 5.0 to 3.4 kg/cm². ➢ Max. pressure in BC ➢ All Brake are applied	6 – 10 sec. 3.0 ±0.15 kg/cm². OK	08 sec. 3.0 kg/cm² OK
2.	Insensitivity	➢ Exhaust BP @ 0.3 kg/cm²/min.	No brake application	OK
3.	Sensitivity	➢ Exhaust BP @ 0.1 kg/cm²/Sec, after 06 Sec.	Brake must apply	OK

7. PAINTING DAETAILS:

S NO	DESCRIPTION	TYPE OF PAINT	MAKE	APPLICATION BY MCF/ CONTRACTOR(SUPPLY & APPLY)	AVERAGE GLOSS VALUE
1.	Paint	P.U	M/S BERGER	SUPPLY & APPLY	91/91
2.	Insulation		Satisfactory		

SSE/QC/MCF/RBL

MCF/RBL

MODERN COACH FACTORY, RAEBARELI आधुनिक रेल डिब्बा कारख़ाना, रायबरेली	DOC NO.: MCF/RBL/QMF 8002	
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8. DETAIL OF BOGIES :

ITEMS	NPP Side				PP Side			
Bogie No	170869				170870			
Bogie Type	FIAT				FIAT			
Frame no.	ECBT-434				ECBT-429			
Bolster no.	VS-25				VS-23			
Axle No	17B-9664		17B-9665		17B-8182		17B-9502	
Wheel Dia	917.435	917.493	917.443	917.511	916.699	916.713	917.460	917.540
Wheel Disc No	TZ04-17 08955-7NJ7	TZ05-17 12589-7007	TZ05-17 12588-7007	TZ04-17 08954-7NJ7	TZ05-17 12645-7007	TZ05-17 15470-70L4	TZ05-17 20215-70K8	TZ04-17 09069-7NJ7
R.B. Nos.	06-17 82413	06-17 79337	06-17 77396	06-17 82418	05-17 58100	06-17 82435	05-17 44924	06-17 82332
CT R B Make	SKF		SKF		SKF		SKF	

9. SECONDARY SUSPENSION LOAD DEFLECTION VALUES

DESCRIPTION	Bogie NPP side				Bogie PP side			
	Secondary 1		Secondary 2		Secondary 1		Secondary 2	
	Outer	Inner	Outer	Inner	Outer	Inner	Outer	Inner
Make & Nos.	CMFSK-04-17-F16-169-84	CVFSK-07-17-9513-291-04	CMFSK-04-17-F16-169-78	CVFSK-07-17-9513-291-166	CMFSK-04-17-F16-169-05	CVFSK-07-17-9513-291-04	CMFSK-04-17-F16-169-108	CVFSK-07-17-9513-291-52
Compressed Ht. at Tested Load	513	466	514.5	464	510.5	465	512	463
Alignment deviation (mm)	09	11	10	11	14	13	12	13

10. TRACEABILITY OF BOGIE ITEMS:

S. NO	ITEM	MAKE/ SUPPLIER	SERIAL NO.	
			NPP SIDE	PP SIDE
1.	Yaw Damper	GABRIEL	1989,1855	1918,1956
2.	Primary outer Spring	CVFSK	08-17-7411-303(326,302,204,225)	08-17-7411-303(229,251,233,274)
3.	Primary Inner Spring	RSK	3041,2836,2868,3147	8856,3844,3337,1910
4.	Primary Damper	KNORR	08-17(10515,10665,10512,10770)	08-17(11094,11028,10696,10774)
5.	Secondary Damper	IAI	04-17-(178314,178316)	04-17-(178324,178329)
6.	Lateral Damper	KNORR	05-17 0842	05-17 0799
7.	Brake Cylinder	ESCORT	34248,33965,33999,34249	34072,33960,34003,34068
8.	Brake Caliper	ESCORT	19234,18995,19029,19235	19146,18990,19033,19142
9.	Brake Disc	FAV	09-17-5168-D133561-300, 09-17-5201-D133561-300, 09-17-5169-D133561-300, 09-17-5202-D133561-300,	09-17-5139-D133561-300, 09-17-5136-D133561-300, 09-17-5138-D133561-300, 09-17-5137-D133561-300,
10.	Ball Joint Control Arm	MTC/S-BLOC		
11.	Lateral Bump Stop	WINLANE		
12.	Traction Centre make	SARITA		
13.	Traction lever make	JI-01-17		
14.	Ball joint traction lever	S-BLOC		
15.	Ball joint traction centre	S-BLOC		
16.	Secondary Rubber Pad	TECSPAK		
17.	Rubber Spring	MTC		
18.	Anti roll bar make	SARITA		
19.	Roll Link make	SARITA/ S-BLOC		
20.	Fork make	SARITA		

Signature of SSE/Bogie/QC

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11. TRACEABILITY OF FURNISHING ITEMS:

S NO	ITEM	MAKE/SUPPLIER	SERIAL NO
1.	Air Brake Module	M/S Escorts ltd railway equipment FBD	2016070013
2.	Pull box	M/s Faively transport tech.india ltd baddi(HP)	
3.	Distribution valve	M/S Escorts ltd railway equipment FBD	1607A013
4.	Foot Step	M/s Super spark pvt.ltd.faridabad	
5.	Decoupling arrangement	M/s Kohinoor Industries Faridabad	
6.	Floor board	M/S Narbada forest bhopal	
7.	PVC	M/s Premier polyfilm, New Delhi	
8.	UIC Vestibule (PPE)	M/s Cemcon ind.DLI	
9.	UIC Vestibule (NPPE)	M/s Cemcon ind.DLI	
10.	Gangway bridge mounting (PPE)	M/s Mahaveer metal workshop KXH	
11.	Gangway bridge mounting (NPPE)	M/s Mahaveer metal workshop KXH	
12.	Body Side Window	M/s Aikon Technologics pvt.ltd. solan H.P	
13.	Emergency Window	M/s Aikon Technologics pvt.ltd. solan H.P	
14.	Lavatory/hopper Window	M/s Rail tech KXH	
15.	Roof Ceiling	M/s KAE Eng.pvt.ltd.esipl U.K	
16.	Door way /gang way ceiling	M/s Gandhi Safe & Allied jalandhar	
17.	Supply Air Duct	M/s Hanspal coach products KXH	
18.	Partition panel	M/s Honey comb international bagaularu	
19.	Partition pillar	M/s Rail tech KXH	
20.	Side Wall panel	M/s-Hindustan fibre ltd vadodara	
21.	AC Trough	M/s Geepee gurgaon	
22.	Body Side Doors	M/s JBM Faridabad	
23.	Compartment Door (PPE)	M/s Hanspal KXH	
24.	Compartment Door (NPPE)	M/s Hanspal KXH	
25.	Vestibule Door(PPE)	M/s Hanspal KXH	
26.	Vestibule Door(NPPE)	M/s Hanspal KXH	
27.	Bio Tank	M/s Rail FAB KXH	
28.	Auxiliary Water Tank	M/s Amit Engg, mohali	
29.	Under Slung Water Tank (2X685L)	M/s Amit Engg, Baddi	
30.	Under Slung Water Tank (1x450 L)	M/s Amit Engg, mohali	
31.	Flexible Faucet	M/s-HF Glass vadodara	
32.	Lotah Filler Tap	M/s-Metco delhi	
33.	Bib cock	M/s Jaquar pvt.ltd. alwar Rajisthan	
34.	Lavatory Modoules	M/s-CMT machinised ltd vadodara	
35.	Lavatory Doors	M/s-Hindustan fibre ltd vadodara	
36.	Waste Bin Arrangement	M/s-CMT machinised ltd vadodara	
37.	Fire Extinguisher	M/s power Agnee new delhi	NPP-43695,PP-43575
38.	Seat & Berth	M/s-CMT machinised ltd vadodara	
39.	Light Luggage Rack	M/s- Techno ind. ALD	
40.	Snack Table	M/s- International tractors ltd. Hoshiarpur	

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12. MODIFICATION (IF ANY) : NIL

13. DEVIATION (IF ANY) : NIL

14. ITEM FITTED ON THE COACH ON TRIAL : NIL

S NO	ITEM PARTICULARS	PURPOSE	REPORT Frequency	REFERENCE & PERIOD OF TRIAL

15. WARRANTY:

S NO	COMPONENTS	WARRANTY
1	Brake Pad, wheels, flushing valves, push gravity cocks, moldings, window glasses, mirrors, curtain etc. (items which are consumable in nature)	NIL
2	Other coach furnishing sub assemblies(bought out items)	24 months date of dispatch of coach or 30 months from date of supply of material whichever is earlier.

NOTE:

1. This warranty covers free supply of parts which wear out and fails within warranty period of normal service.
2. This doesn't covers faults arising out of accident, non standard maintenance practices, abnormal use or mishandling, vandal activity, arson & deficient/pilferage etc.
3. This doesn't cover any consequential liabilities or damages/loss incurred by anybody; furthermore, it shall in no case extend to repayment, return of the coach or replacement of complete coach.
4. Whether a defective part is to be replaced or repaired shall be at the discretion of MCF/RBL.
5. For any complain/ suggestion please Mail at qualityrcfrbl@gmail.com
6. Painting on supply & apply contract :- supply of material and application shall be warranted for a period of three years from date of Application for any manufacturing /Application as per clause -4,para- V of RDSO specification no .M&C/PCN/100/2013-Given below -

S.No	Time period	Gloss Retention (initial gloss >85 unit at 60°)	Colour Retention rating on 0-10 scale (initial rating of painted panels/coach or ISC/RAL shade card shall be taken as 10)	Adherence of paints (with each other and with substrate)Cross-cut tape adhesion test as per ASTM D:3359/97(or latest)
1	After 1 year	80% of initial gloss	7	5B
2	After 2 year	70% of initial gloss	6	5B
3	After 3 year	60% of initial gloss	5	4B

If any imperfection is noticed or any defect arises during the warranty –period due to improper material used or due to bad workmanship, the contractor shall be bounded to set right the defect/ imperfection on free of cost basis at the base depot of the coach.

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3T-729

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Modern Coach Factory Raebareli आधुनिक रेल डिब्बा कारख़ाना, रायबरेली	DOC NO.: MCF/RBL/QEF/8001 REV NO: 00 DATE:18.01.2017

FOR ELECTRICAL ITEMS

ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

ELECTRICAL TEST CERTIFICATE FOR LHB/EOG AC COACHES

TYPE COACH	**LWACCN**	**SHELL/COACH NO**	**17974/C**
RAILWAY	**CR**	**DATE OF DESPATCH**	

Sr no	Description of tests		Remarks
1.0	REFERENCE SPECIFICATION : L 446		
1.1	AIR CONDITIONING TEST : ELPS/TP/AC 01.		
1.2	CODE OF PREACTICE OF WIRING : ELPS/SPEC/EOG/AC-01		
2.0	INSULATION RESISTANCE : Setting of insulation monitoring relay at 30K ohms as per TD 111 of M/s LHB.		
	Observed status : HEALTHY		
3.0	AIR DELIVERY MEASUREMENT	OBSERVED VALUE	OK
3.1	Fresh Air	**29.55** Cub mtr/min	OK
3.2	Return Air	**67.29** Cub mtr/min	OK
3.3	Exhaust Air	**9.46** Cub mtr/min	OK
3.4	Conditioned Air	**187.12** Cub mtr/min	OK
4.0	**PRE COOLING TEST: Max 01 hr.** Time taken to pre cool from 45 deg centigrade to 24/22 deg C during OFF LOAD condition Not done due to ambient temp. below 22^0C		OK
5.0	**PULL DOWN TEST: Max 02 hrs.** Time taken to pull down from 45 deg C to 24/22 deg C during FULL LOAD condition. Not done due to ambient temp. below 22^0C		OK

Senior Section Engineer
Quality control / Electrical
Modern Coach Factory Raebareli

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FOR ELECTRICAL ITEMS

ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

ELECTRICAL TEST CERTIFICATE FOR LHB EOG AC COACHES		
Sr no	**Description of test**	**Remarks**
6.0	HUMIDITY CONTROL	OK
7.0	PUMP EQUIPMENTS	OK
8.0	WORKING OF EXHAUST FANS OVER LAVATORIES	OK
9.0	WORKING OF COMPOSITE PANTRY	OK
10.0	COMPARTMENT LIGHT	OK
11.0	PUBLIC ADDRESSING SYSTEM **(PAS)**	OK
12.0	WHEEL SLIDE PROTECTION SYSTEM **(WSP)**	OK
13.0	WORKING OF 60KVA TRANSFORMER	OK
14.0	WORKING OF REGULATED BATTERY CHARGER	OK
15.0	WORKING OF EMERGENCY BATTERY CHARGER	OK
16.0	SAFETIES :	OK
16.1	THERMOSTAT :	OK
16.2	ROTARY 07 SET POINTS (NORMAL CONDITION)	OK
16.3	MID SET POINTS (SENSORS FAILED CONDITIONS)	OK
16.4	HYGROSTAT	OK
16.5	CONTROL CIRCUIT	OK
16.6	POWER CIRCUIT	OK
17.0	REFRIGERANT USED **R 407C**	OK

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ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

Sr no	Description	Drg/Spec no.	Quantity per Coach
01.	Roof mounted AC package unit for LHB AC coaches. Make :**LEEL** Sr no of RMPU (NPP side):**17100381** Sr no of RMPU (PP side) : **17108148** Sr no of Microprocessor: **17.06.012/A PAUL**	As per rdso/pe/spes/ac/0061/rev-1/2005	**02**
02.	Switch board cabinet Make :**ISG** Sr no :**17-10-0001**	RDSO/PE/SPEC/AC/0184-2015 REV-0	**01**
03.	Pump equipment with PLC controller & pump box Make :**KALSI** Sr no PA :**6443/10/17** Sr no.1 :**283931** Sr no.2 :**283932** Sr no.CPA :**6477/10/2017**	As per spec EDTS 186,Rev-a, Am- 2	**01**
04.	Double inlet centrifugal blower 415V/03Ph /50Hz /120W/450 cum mtr/hr discharge for exhausting air from lavatory & switch board cabinet Make :**EYYANI**	EDTS331, TYPE-1 CORR.-1&2	**02**
05.	Door way/Gangway Light Make : **DR AUTO**	RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-N	**07**
06.	Provision of Passenger area light(Cabin) Make: **DR AUTO**	As per RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-L	**09**
07.	Corridor Light with Night light Make: **DR AUTO**	RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-M	**09**
08.	Emergency light system for EOG type coaches (AEL) Make : **INTRA**	EDTS 151,Rev –c Am-1 & 2	**04**
09.	Lavatory light fitting assly Make :NIL	LW 76001,Alt nil	**04**
10.	Toilet indication (WC) light, Make: **DR AUTO**	As per RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-H1	**04**
11.	Passenger alarm coach indication light Make : **DR AUTO**	LW 76005,Alt-e	**02**

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ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

Sr no	Description	Drg/Spec no.	Quantity per Coach
12.	Razor socket for WC 110/240V. Make :**SSK**	EDML 047,Rev nil	**04**
13.	Terminal strip Make :**WAGO**	EDML 034,Rev-a	**01**
14.	Terminal connector Make :**WAGO**	EDML 037,Rev`a'	**04**
15.	Single switch 06A/250V/AC ONE WAY ,complete with steel plate & cover frame Make : **SSK**	EDML 0,64,Rev-B, Item 04.	**09**
16.	Single switch 06A/250V/AC ONE WAY complete with steel plate & cover frame Make : **SSK**	EDML 0,64,Rev-B, Item 05.	**09**
17.	Provision of switch socket combined 5PIN (06A, 250V AC) along with 1A glass fuse fitted powder coated steel plate & cover frame Make :**SSK**	EDML 0,64,Rev-B, Item -16.	**09**
18.	PA system for LHB coaches Make :**AHUJA**	EDTS 173,Rev- a Am-1,2&3	**01 set**
19.	70AH/110V,54 Cells,02V each ,maintenance free pure lead acid tin monoblock ,battery set with 09 modules 12V each. , factory pre charged. Make :**AMARA RAJA** Lug date :**10/2017**	EDTS 129,Rev nil	**01 set**
20.	Battery box for LHB coaches. Make :**TECHNO**	1 10113 0 76 700 005 w/o item 5,22 ,23 ,26 & 27.	**01**
21.	Battery fuse box +ve Make :**ISG**	As per LW 71001,Alt-F	**01**
22.	Battery fuse box –ve Make :**ISG**	As per LW 71002,Alt-F	**01**

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RCF/RBL

ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

Sr no	Description	Drg/Spec no.	Quantity per Coach
23.	Emergency battery charger Make :**M.B COMP.** Sr no:**2017/09/388** Make : **M.B COMP** Sr no: **2017/09/320**	EDTS 163,Rev `c' corg.-2&3	**02**
24.	Provision of 5KVA TFR Make :**VIMAL** SL.no :**VTC-3089-LHB-91**	As Per EDTS-366,REV-NIL & CC-71510	**01**
25.	Provision of capacitor Bank Make :**ISG** SL.no :**17-04-0059**	As per EDML-130 Rev-1,Corr-1	**01**
26.	60KVA transformer Make : **AUTOMATIC Elect Ltd** Sr no : **4/17/T 116503/165**	As per rdso/pe/spec/ac/0080/rev-0 (2007)/Am-1&2/Corr. 1,2&3	**01**
27.	Inter Vehicle (ZS)coupler Make: **MAA LAXMI INDUSTRIES**	As per RDSO PE SPEC-0177-2013 REV-0	**01 set**
28.	Feeder junction boxes. Make :**NEC**	EDTS-328 REV-C	**01 set**
29.	Wheel set earthling equipment. Make : **MAA LAXMI INDUSTRIES**	EDTS101,REV-C,AM-1	**02 sets**
30.	Wheel Slide Protection System (WSP) Make :**ESCORT** Sr no :**170076-11932-0012**	M/s : **ESCORT**	**01 set**
31.	PANTRY EQUIPMENTS : Hot Case & Bottle cooler cum deep freezer Make :**SPECTRUM**	As per EDTS -139, Rev- E ,Sec II.	**01**

SSE/EL/QC	**SEE(P)/MCF/RBL/ DYCEE/P&P/MCF/RBL**

वरिष्ठ अनुभाग अभियन्ता
गुणवत्ता नियंत्रण
आरबरेडिओकाो / लालगंज / रायबरेली
S.S.E./Elect-QC/M.C.F./LLJ/RBL

वरिष्ठ विद्युत अभियन्ता
रेल कोच फैक्टरी, रायबरेली, लखनऊ
Sr. Electrical Engineer / RCF / RBL / Lucknow

RCF/RBL