



रेल डिब्बा कारखाना, रायबरेली RAIL COACH FACTORY, RAEBARELI



FORM NO: RCF/RBL/QMF 8001
VERSION: 2012-01-01

ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: RCF/RBL/QC/RSC

Date: 07/04/2014

SHELL	L	W	A	C	C	N	3	1	1	1	/	2	0	1	3	DATE OF DISPATCH	0	4	0	3	2	0	1	4
RLY	S	R	Type	L	W	A	C	C	N	Coach No.	1	3	8	7	6	/	C							

1. Railway Board's Order No : 2013/M(C)/142/3 dated 27/12/2013
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/-15	1) 1103 (NPPE) 2) 1104 (PPE)

5. TRACEABILITY OF SHELL ITEMS:

S NO	ITEM	MAKE/SUPPLIER	SERIAL NO
1.	Buffers	N.A.	
2.	Centre Buffer Coupler	M/s Escorts	PP END 2763 NPP END 2761

6. AIRBRAKE TEST REPORT:

S NO	ITEM	DESCRIPTION	SPEC. VALUE	OBSERVED
1.	Full brake application	<ul style="list-style-type: none"> ➤ 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/cm ² . OK	6 sec. 3.0 kg/cm ² OK
2.	Insensitivity	➤ Exhaust BP @ 0.3 kg/cm ² /min.	No brake application	OK
3.	Sensitivity	➤ Exhaust BP @ 0.1 kg/cm ² /Sec, after 02 Sec.	Brake must apply	OK

7. PAINTING DETAILS:

S NO	DESCRIPTION	TYPE OF PAINT	MAKE	AVERAGE GLOSS VALUE
1.	Paint	P.U.	NAROLAC	-----
2.	Insulation		Satisfactory	



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RLY	S	R	Type	L	W	A	C	C	N	Coach No.	1	3	8	7	6	/	C
-----	---	---	------	---	---	---	---	---	---	-----------	---	---	---	---	---	---	---

8. DETAIL OF BOGIES :

ITEMS	PP SIDE				NPP SIDE			
Bogie No	137144				137143			
Bogie Type	Fiat				Fiat			
Axle No	R-2308		H-3252		RWF-109051		T-4536	
Wheel Dia	916.00	916.50	917.00	916.50	917.50	917.50	917.50	917.50
Wheel Disc No	021-46433/ZB13	018-48028/ZB13	306-50846/ZB13	072-50800/ZB13	031-50861/ZB13	0268-46520/ZB13	019-46820/ZB13	198-50792/ZB13
R B Nos.	03545	03526	09219	09247	11950	03749	12397	03739
CT R B Make	SKF		SKF		SKF		SKF	

9. SECONDARY SUSPENSION LOAD DEFLECTION VALUES

DESCRIPTION	BOGIE PP SIDE				BOGIE NPP SIDE			
	SECONDARY 1		SECONDARY 2		SECONDARY 1		SECONDARY 2	
	OUTER	INNER	OUTER	INNER	OUTER	INNER	OUTER	INNER
Make & Nos.	DN-13-4	GF-12-4-5259	DN-13-4-1960	GF-13-4-5145	DN-13-4-1326	GF-13-4-4797	DN-13-4-1333	GF-13-4-1495
Compressed Ht. at Tested Load	508	466	505	465	509	467	505	467
Alignment deviation (mm)	15	16	14	18	13	11	14	11

10. TRACEABILITY OF BOGIE ITEMS:

S NO	ITEM	SERIAL NO		MAKE
		NPP SIDE	PP SIDE	
1.	Primary outer Spring	L&S-3-13	L&S-3-13	L&S
2.	Primary Inner Spring	L&S-2-13	L&S-2-13	L&S
3.	Primary Damper			KONI
4.	Secondary Damper			SACHS
5.	Lateral Damper			GEREP
6.	Yaw Damper	2962,2628	3092,2987	SACHS
7.	Brake Cylinder & Caliper	H-5325/691,H-4612/691 H-5332/691,H-4590/691	H-5330/691,H-5421/691 H-5331/691,H-5404/691	KBI
8.	Brake Disc			FTI
9.	Ball Joint Control Arm			SGA
10.	Lateral Bump Stop			GMT
11.	Ball Joint Traction Lever			GMT
12.	Traction Centre Elastic			SARITA
13.	Secondary Rubber Pad			TECSPAK
14.	Rubber Spring			GMT
15.	Ball Joint Roll Link			SARITA



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RLY	S	R	Type	L	W	A	C	C	N		Coach No.	1	3	8	7	6	/	C						

11. TRACEABILITY OF FURNISHING ITEMS:

11. TRACEABILITY OF FURNISHING ITEMS:

S NO	ITEM	MAKE/SUPPLIER	SERIAL NO
1.	Air Brake Module	M/s KBI, Faridabad, New Delhi	13M0489
2.	Pull box	M/s KBI, Faridabad, New Delhi	
3.	DV	M/s KBI, Faridabad, New Delhi	2013L0923
4.	PVC	M/s Responsive, Colaba, Mumbai	
5.	UIC Vestibule (PPE)	M/s FRICMART	
6.	UIC Vestibule (NPPE)	M/s FRICMART	
7.	Foot Step	M/s JVR	
8.	Decoupling arrangement	M/s SECO	
9.	Body Side Window	M/s AIKON Tech. Pvt. Ltd Solan HP+Rail Tech. KXH	
10.	Emergency Window	M/s AIKON Tech. Pvt. Ltd Solan HP	
11.	Lavatory Window	M/s AIKON Tech. Pvt. Ltd Solan HP	
12.	Roof Ceiling	M/s KAE Engineers Pvt. Ltd. ESIPL UK	
13.	Non-AC Area Ceiling	M/s Gandhi Enterprises, Jalandhar	
14.	Supply Air Duct	M/s Hanspal Coach Products Kapurthala	
15.	Body Side Doors	M/s JVR	
16.	Compartment Door (PPE)	M/s Rail Tech, KXH	
17.	Compartment Door (NPPE)	M/s Rail Tech, KXH	
18.	Vestibule Door (PPE)	M/s JBM Faridabad	
19.	Vestibule Door (NPPE)	M/s JBM Faridabad	
20.	CDTS	M/s Darshan Enterprises New Delhi	
21.	Auxiliary Water Tank	M/s Amit Engineering Mohali, Punjab	
22.	Under Slung Water Tank (450 L)	M/s Shivalik Fasteners, Mohali Punjab	
23.	Under Slung Water Tank (2X685L)	M/s Shivalik Fasteners, Mohali Punjab	
24.	Flexible Faucet	M/s Hindustan Fibre Ltd. Vadodara, Gujrat	
25.	Lotah Filler Tap	M/s Metco New Delhi	
26.	Lavatory Modules	M/s Hindustan Fibre Ltd. Vadodara, Gujrat	
27.	Lavatory Doors	M/s Hindustan Fibre Ltd. Vadodara, Gujrat	
28.	Waste Bin Arrangement	M/s Hindustan Fibre Ltd. Vadodara, Gujrat	
29.	Fire Extinguisher	M/s Hindustan Fibre Ltd. Vadodara, Gujrat	
30.	Side Wall panel	M/s KAE Engineers Pvt. Ltd. ESIPL UK	
31.	Seat & Berth	M/s Aarkay Foams Mohali	
32.	Light Luggage Rack	-----	
33.	Snack Table	M/s International Tractor Ltd, Hoshiarpur	



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Date: 07/04/2014

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RLY	S	R	Type	L	W	A	C	C	N		Coach No.	1	3	8	7	6	/	C						

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	REFERENCE & PERIOD OF TRIAL
			Frequency	

15. WARRANTY:

S NO	COMPONENTS	WARRANTY
1	Brake blocks, wheels, push gravity cocks, flushing valves, moldings, window glasses, mirrors, roller blinds, curtain & bulbs 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 falls 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 RCF/RBL.

DY CME/P
RCF/RBL
उप मु० या० प्र०/कर.
RCF/RBL(LLJ)
रे. डि. का. रायबरेली (लालगंज)

SSE/MECH
RCF/RBL

सरि० अनु० अभियन्ता यान्त्रिक
रेल कोच फैक्ट्री (लालगंज) रायबरेली
Sr. Sr. Engineer Mech
RCF Lal Ganj (Raebareli)

RAIL COACH FACTORY, KAPURTHALA

L37-87

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Date: 26-12-2013

Shell No.:- 3104 RCF/RBL

RLY	Type	LACCN	Coach No.
-----	------	-------	-----------

6.0 Wheel & Axle details:

Items	PP Side				Non PP Side			
Bogie No.	137143				137144			
Frame No.	FIAT-2762				FIAT-2686			
Bolster No.	3560-P				3263-VT			
Axle No.	RWF-109051		T-4536		R-2308		H-3252	
Wheel Diameter	917.50	917.50	917.50	917.50	916.00	916.50	917.00	916.50
Wheel Disc No.	031-50861/ ZB13	268-46520/ ZB13	019-46820/ ZB13	198-50792/ ZB13	021-46433/ ZB13	018-48028/ ZB13	306-50846/ ZB13	072-50800/ ZB13
R.B. Nos.	11950	03749	12397	03739	03545	03526	09219	09247
R. B. Make	SKF		SKF		SKF		SKF	
RB Type	CARTRIDGE TAPER ROLLER BEARING							

6.1 Secondary suspension load deflection Values:

Description	Bogie PP side				Bogie NPP side			
	Secondary 1		Secondary 2		Secondary 1		Secondary 2	
	Outer	Inner	Outer	Inner	Outer	Inner	Outer	Inner
Make & nos.	DN-13-4-1326	GF-13-4-4797	DN-13-4-1333	GF-13-4-1495	DN-13-4	GF-12-4-5259	DN-13-4-1960	GF-13-4-5145
Compressed ht. at tested load	509	467	505	467	508	466	505	465
Align deviation	13	11	14	11	15	16	14	18

6.2 Component traceability:

SNO	ITEM	PP Side Bogie	NPP side Bogie	Make
1	Primary Outer Spring batch no.	L&S-3-13	L&S-3-13	L&S
2	Primary inner Spring batch no	L&S-2-13	L&S-2-13	L&S
3	Primary Damper			KONI
4	Secondary damper			SACHS
5	Lateral Damper			GEREP
6	Brake cylinder & Caliper	H-5325/691,H-4612/691, H-5332/691,H-4590/691	H-5330/691,H-5421/691, H-5331/691,H-5404/691	KBI
7	Brake Disc			FTI
8	Ball joint Control arm			SGA
9	Lateral Bump stop			GMT
10	Traction center make			SARITA
11	Traction lever make			SARITA
12	Ball joint traction lever			GMT
13	Ball joint Traction centre			SGA
14	Secondary rubber pad			TECSPAK
15	Rubber spring			GMT
16	Anti roll bar make			SARITA
17	Roll link make			SARITA
18	Fork make			EMSON

22/12/14
SSE/De Hogue



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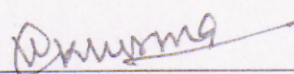
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FOR ELECTRICAL ITEMS

ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

ELECTRICAL TEST CERTIFICATE FOR LHB/EOG AC COACHES

TYPE COACH		LWACCN	SHELL/COACH NO	13876/C
RAILWAY		SR	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 PRACTICE 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	29.86 Cub mtr/min		OK
3.2	Return Air	55.47 Cub mtr/min		OK
3.3	Exhaust Air	6.71 Cub mtr/min		OK
3.4	Conditioned Air	173.25 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 deg C			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 deg C			OK


Senior Section Engineer
Quality control / Electrical
RCF, Raebareli



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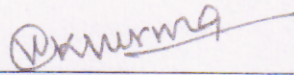
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FOR ELECTRICAL ITEMS

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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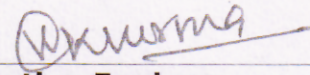
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ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

Sr no	Description	Drg/Spec no.	Quantity per Coach
01.	Roof mounted AC package unit for LHB AC coaches Make : INTEC Sr no of RMPU (NPP side) : 14-A-010 Sr no of RMPU (PP side) : 14-A-025 Sr no of Microprocessor : AE-140-10-45/AMIT	EDTS 075,Rev-c Col I.	02
02.	Switch board cabinet (In case of CHAIR CAR / In case of Make: ISG Sr no : 0057-11/2013	EDTS 073 ,Rev -d	01
03.	Pump equipment with PLC controller & pump box Make: KIND Sr no: 0508857 Sr no.1: 130505233 Sr no.2 : 130505234 Pump controller sr. no.: 1305049	EDTS 094,Rev`a`	01
04.	Double inlet centrifugal blower 415V/03Ph /50Hz /120W/450 cum mtr/hr discharge for exhausting air from lavatory & switch board cabinet Make : INTEG	Cat no D2D 133 -AB06-19 of EBM or equivalent approved	02
05.	Vestibule Light Fitting Single	LW 76004,Alt-b	07
06.	Ceiling light fitting DOUBLE w/o diffuser.	LW 76011,Alt -c	09
07.	Ceiling light fitting with NL w/o diffuser w/o item 2&3	LW 76013,Alt -c	09
08.	Emergency light system for EOG type coaches (AEL)	EDTS 151,Rev-c	04
09.	Lavatory light fitting assly	LW 76001,Alt nil	04
10.	WC gauge signal light	LW 76006,Alt-c	02


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ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

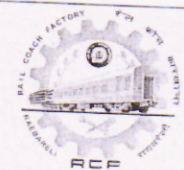
Sr no	Description	Drg/Spec no.	Quantity per Coach
11.	Passenger alarm coach indication light	LW 76005,Alt-d	02
12.	Fluorescent lamp 18W	RDSO/PE/SPEC/ D/TL 0011- 2000,Rev I, Sec- I , 07/2001	34
13.	Diffuser complete w/o item 1& 2.	LW 76012,Alt-a	25
14.	Razor socket for WC 110/240V.	EDML 047 ,Rev nil	04
15.	Terminal strip	EDML 034,Rev-a	01
16.	Terminal connector	EDML 037,Rev`a`	04
17.	Single switch 06A/250V/AC ONE WAY ,complete with steel plate & cover frame	EDML 047,Rev nil, Item 1.	09
18.	Single switch 16A/250V/AC ONE WAY complete with steel plate & cover frame	EDML 045,Rev nil ,Item 2.	09
19.	PA system for LHB coaches Make : AHUJA	EDTS 173,Rev- a Am-1,2&3	01 set
20.	70AH/110V,54 Cells,02V each ,maintenance free pure lead acid tin monoblock ,battery set with 09 modules 12V each. , factory pre charged. Make : A. RAJA Lug date : 07/2013	EDTS 129,Rev nil	01 set
21.	Battery box for LHB coaches.	1 10113 0 76 700 005 w/o item 5,22 ,23 ,26 & 27.	01

(Signature)

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ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

Sr no	Description	Drg/Spec no.	Quantity per Coach
22.	Battery fuse box +ve Make : NEC	LW 71001,Alt`d	01
23.	Battery fuse box -ve Make : NEC	LW 71002,Alt-d	01
24.	Regulated battery charger Make : AAL Sr no: BCH-06-13-09-026	EDTS 074,Rev -c Corr.1	01
25.	Emergency battery charger Make : BHASIN Sr no: BC 013025	EDTS 163,Rev `c` corg.-2&3	01
26.	60KVA transformer Make : VIMAL Sr no : 2005-11/2013	EDTS 076 ,Rev-b Am-1	01
27.	ZS coupling 400A/750V/03Ph/50hz. Make : S.INTERNATIONALS	EDTS 105,Rev-e Am-1,2 Corr.1	02 sets
28.	Feeder junction boxes. Make : NEC	EDML 020,Rev-e	02
29.	Wheel set earthing equipment. Make : MAA LAXMI INDUSTRIES	EDTS 101,Rev-c	02
30.	Wheel Slide Protection System (WSP) Make: KNOOR Sr no : 0113380851	M/s : KNOOR	01 set
31.	PANTRY EQUIPMENTS : Hot Case & Bottle cooler cum deep freezer Make : STESTALITE	EDTS -139 Rev- Nil, Am-1,2,3&4	01

SEE/RCF/RBL

वरिष्ठ विद्युत अभियन्ता

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

SSE/EL/QC

विद्युत उत्पादन-गुणवत्ता
रेल कोच फैक्टरी / लालगंज / रायबरेली
Sr. Section Engineer
Electric Production - Quality
RCF / RBL / LLJ

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