



# रेल डिब्बा कारखाना, रायबरेली RAIL COACH FACTORY, RAEBARELI



37-132

FORM NO: RCF/RBL/QMF 8001  
VERSION: 2012-01-01**ROLLING STOCK CERTIFICATE**

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

Date: 30/07/2014

SHELL	L	W	A	C	C	N	3	1	6	6	/	2	0	1	3	DATE OF DISPATCH	2	6	0	4	2	0	1	4
RLY	S	W	R	Type	L	W	A	C	C	N	Coach No.	1	4	1	1	5	/	C						

1. Railway Board's Order No : 2013/M(C)/142/3 dated 03.03.2014
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) 1102(NPPE) 2) 1103(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 3066 NPP END 3048

**6. AIRBRAKE TEST REPORT:**

S NO	ITEM	DESCRIPTION	SPEC. VALUE	OBSERVED
1.	Full brake application	<ul style="list-style-type: none"> <li>➤ Reduce pressure of BP from 5.0 to 3.4 kg/cm<sup>2</sup>.</li> <li>➤ Max. pressure in BC</li> <li>➤ All Brake are applied</li> </ul>	6 – 10 sec. 3.0 ±0.15 kg/cm <sup>2</sup> . OK	8 sec. 3.0 kg/cm <sup>2</sup> OK
2.	Insensitivity	<ul style="list-style-type: none"> <li>➤ Exhaust BP @ 0.3 kg/cm<sup>2</sup>/min.</li> </ul>	No brake application	OK
3.	Sensitivity	<ul style="list-style-type: none"> <li>➤ Exhaust BP @ 0.1 kg/cm<sup>2</sup>/Sec, after 02 Sec.</li> </ul>	Brake must apply	OK

**7. PAINTING DETAILS:**

S NO	DESCRIPTION	TYPE OF PAINT	MAKE	AVERAGE GLOSS VALUE
1.	Paint	P.U.	VIBGYOR	85.3
2.	Insulation		Satisfactory	





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RLY	S	W	R	Type	L	W	A	C	C	N	Coach No.	1	4	1	1	5	/	C						

### 8. DETAIL OF BOGIES :

ITEMS	PP SIDE				NPP SIDE			
Bogie No	136557				136558			
Bogie Type	Fiat				Fiat			
Axle No	G-8065		K-2237		J-4392		K-2237	
Wheel Dia	917.50	917.50	917.50	917.50	918.00	918.00	916.50	917.00
Wheel Disc No	136- 50796/ZB13	003- 51777/ZB13	081- 50846/ZB13	077- 50846/ZB13	119- 50854/ZB13	227- 50861/ZB13	018- 50859/ZB13	269- 50854/ZB13
R.B. Nos.	02456	02435	25471	25472	25125	25161	25286	25316
CT R B Make	TIM		TIM		TIM		TIM	

### 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.	G-9-12-445	G11-12-4112	G-9-12-496	G11-12-4164	G-9-12-505	G11-12-4191	G-9-12-443	G11-12-4106
Compressed Ht. at Tested Load	513	465	512	467	514	467	512	464
Alignment deviation (mm)	19	12	21	19	16	9	13	11

### 10. TRACEABILITY OF BOGIE ITEMS:

S NO	ITEM	SERIAL NO		MAKE
		PP SIDE	NPP SIDE	
1.	Primary outer Spring	L&S-05-12	L&S-05-12	L&S
2.	Primary Inner Spring	L&S-9-12	L&S-9-12	L&S
3.	Primary Damper	15156,14539,15230,15190	14981,15191,15121,14720	KONI
4.	Secondary Damper	3260,3873	3385,3148	KONI
5.	Lateral Damper			GEREP
6.	Yaw Damper			SV SOCKS
7.	Brake Cylinder & Caliper	A14241,B14001 A14244,B14003	B14035,B14060, B14032,B14064	FTI
8.	Brake Disc			KBI
9.	Ball Joint Control Arm			GMT
10.	Lateral Bump Stop			GMT
11.	Traction Centre make			SARITA
12.	Traction lever make			SARITA
13.	Ball joint traction lever			SGA
14.	Ball joint traction centre			GMT
15.	Secondary Rubber Pad			TECSPAC
16.	Rubber Spring			GMT
17.	Anti roll bar make			SARITA
18.	Roll Link make			SARITA
19.	Fork make			EMSON





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RLY	S	W	R	Type	L	W	A	C	C	N	Coach No.	1	4	1	1	5	/	C						

### 11. TRACEABILITY OF FURNISHING ITEMS:

S NO	ITEM	MAKE/SUPPLIER	SERIAL NO
1.	Air Brake Module	M/s Faively Harita Hasur Tamilnadu	A14032B
2.	Pull box	M/s Faively Harita Hasur Tamilnadu	
3.	DV	M/s Faively Harita Hasur Tamilnadu	
4.	PVC	M/s Responsive, Colaba, Mumbai	14015544B
5.	UIC Vestibule (PPE)	M/s COMCEN	
6.	UIC Vestibule (NPPE)	M/s COMCEN	
7.	Foot Step	M/s JVR Ludhiana	
8.	Decoupling arrangement	M/s SECO	
9.	Body Side Window	M/s Rail Tech, Kapurthala	
10.	Emergency Window	M/s Rail Tech, Kapurthala	
11.	Lavatory Window	M/s Rail Tech, Kapurthala	
12.	Roof Ceiling	M/s Hindustan Fibre Ltd. Vadodra (Gujrat)	
13.	Non-AC Area Ceiling	M/s Amirchand Engg. Works, Jalandhar	
14.	Supply Air Duct	M/s Hanspal Coach Products, Kapurthala	
15.	Body Side Doors	M/s JBM Faridabad, 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 VIBHU Composit works, Yamuna Nagar	
21.	Auxiliary Water Tank	M/s Amit Engg, Mohali Punjab	
22.	Under Slung Water Tank (450 L)	M/s Shivalik Fasteners, Mohali Punjab	
23.	Under Slung Water Tank (2X685L)	M/s Amit Engg, Mohali Punjab	
24.	Flexible Faucet	M/s Hindustan Fibre Ltd. Vadodra (Gujrat)	
25.	Lotah Filler Tap	M/s Metco (New Delhi)	
26.	Lavatory Modoules	M/s Hindustan Fibre Ltd. Vadodra (Gujrat)	
27.	Lavatory Doors	M/s Hindustan Fibre Ltd. Vadodra (Gujrat)	
28.	Waste Bin Arrangement	M/s Hindustan Fibre Ltd. Vadodra (Gujrat)	
29.	Fire Extinguisher	M/s Hindustan Fibre Ltd. Vadodra (Gujrat)	
30.	Side Wall panel	M/s KAE Engg. Pvt. Ltd. Satarganj, U.K.	
31.	Seat & Berth	M/s Savitry Engg. Products Pontasahib	
32.	Light Luggage Rack	M/s Virendra Steel Enterprises Chandigarh	
33.	Snack Table	M/s International Tractors Ltd. Hoshiarpur	





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RLY	S	W	R	Type	L	W	A	C	C	N	Coach No.	1	4	1	1	5	/	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.
5. For any complain/ suggestion please contact at qualityrcfbl@gmail.com

DY CME  
RCF/RBL

By CME/Fur  
उप मू० यां० अधिकार.  
RCF/RBL(LLJ)  
रे. डि.का. रायबरेली (लालगंज)

SSE/QC  
RCF/RBL

सीनियर सेक्शन इंजीनियर (क्वालिटी कंट्रोल)  
रेल डिब्बा कारखाना रायबरेली  
Sr. Section Engineer (Quality Control)  
Rail Coach Factory, Raebareli (Lalganj)





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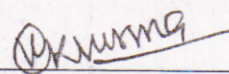
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**FOR ELECTRICAL ITEMS**

ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

ELECTRICAL TEST CERTIFICATE FOR LHB/EOG AC COACHES

<b>TYPE COACH</b>	<b>LWACCN</b>	<b>SHELL/COACH NO</b>	<b>14115/C</b>
<b>RAILWAY</b>	<b>SWR</b>	<b>DATE OF DESPATCH</b>	
<b>Sr no</b>	<b>Description of tests</b>		<b>Remarks</b>
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	29.42 Cub mtr/min	OK
3.2	Return Air	83.12 Cub mtr/min	OK
3.3	Exhaust Air	6.49 Cub mtr/min	OK
3.4	Conditioned Air	178.10 Cub mtr/min	OK
4.0	<b>PRE COOLING TEST: Max 01 hr.</b> Time taken to pre cool from 45 deg centigrade to 24/22 deg C during OFF LOAD condition  PP Side : 21.6°C NPP Side : 21.2°C		OK
5.0	<b>PULL DOWN TEST: Max 02 hrs.</b> Time taken to pull down from 45 deg C to 24/22 deg C during FULL LOAD condition.		OK
	Not done		

  
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Quality control / Electrical  
RCF, 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

Senior Section Engineer  
Quality control / Electrical  
RCF, Raebareli





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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 : <b>SIDWAL</b> Sr no of RMPU (NPP side ) : <b>14-C-053</b> Sr no of RMPU (PP side) : <b>14-C-058</b> Sr no of Microprocessor. <b>AE-14-03-097/AMIT</b>	As per rdso/pe/spes/ac/0061/ rev-1/2005	<b>02</b>
02.	Switch board cabinet Make: <b>INSTRUMENTATION Ltd</b> Sr no : <b>137012</b>	As per spec no . EDTS073,REV-D,AM-6	<b>01</b>
03.	Pump equipment with PLC controller & pump box Make: <b>KALSI</b> Sr no PA: <b>3441/8/13</b> Sr no.1 : <b>243222</b> Sr no.2 : <b>243223</b> Sr no.CPA- <b>3409/8/13</b>	As per spec EDTS 186,Rev-a, Am- 2	<b>01</b>
04.	Double inlet centrifugal blower 415V/03Ph /50Hz /120W/450 cum mtr/hr discharge for exhausting air from lavatory & switch board cabinet Make : <b>INTEG</b>	EDTS331, TYPE-1 CORR.-1&2	<b>02</b>
05.	Vestibule Light Fitting Single	LW 76004,Alt-b	<b>07</b>
06.	Ceiling light fitting DOUBLE w/o diffuser.	LW 76011,Alt -c	<b>09</b>
07.	Ceiling light fitting with NL w/o diffuser w/o item 2&3	LW 76013,Alt -c	<b>09</b>
08.	Emergency light system for EOG type coaches (AEL)	EDTS 151,Rev -c Am-1 & 2	<b>04</b>
09.	Lavatory light fitting assly	LW 76001,Alt nil	<b>04</b>
10.	WC gauge signal light	LW 76006,Alt-c	<b>02</b>

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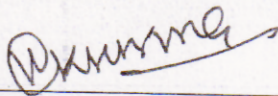
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ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

Sr no	Description	Drg/Spec no.	Quantity per Coach
11.	Passenger alarm coach indication light	LW 76005,Alt-e	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 :HBL Lug date :08/13	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

  
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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 : <b>INTEC</b>	As per LW 71001,Alt-F	<b>01</b>
23.	Battery fuse box -ve Make : <b>INTEC</b>	As per LW 71002,Alt-F	<b>01</b>
24.	Regulated battery charger Make: <b>IC ELECT.</b> Sr no- <b>14-03-052</b>	As per RDSO/pe/spec/ac/01 29, Rev.-1 (2009)	<b>01</b>
25.	Emergency battery charger Make : <b>BHASIN</b> Sr no- <b>08130233</b>	EDTS 163,Rev `c` corg.-2&3	<b>01</b>
26.	60KVA transformer Make : <b>VIMAL</b> Sr no : <b>2148</b>	As per rdso/pe/spec/ac/008 0/rev-0 (2007)/Am- 1&2/Corr. 1,2&3	<b>01</b>
27.	ZS coupling 400A/750V/03Ph/50hz. Make : <b>S INTERNATIONAL</b>	As per spec No EDTS 105,Rev `e` Am-2	<b>02 sets</b>
28.	Feeder junction boxes. Make : <b>ISG</b>	EDML 020,Rev-I	<b>02</b>
29.	Wheel set earthling equipment. Make : <b>DARSHAN ENTERPRISES</b>	EDTS101,REV- C,AM-1	<b>02</b>
30.	Wheel Slide Protection System (WSP) Make: <b>FAIVELEY</b> & Sr no : <b>03/14/103</b>	M/s : <b>FAIVELEY</b>	<b>01 set</b>
31.	PANTRY EQUIPMENTS : Hot Case & Bottle cooler cum deep freezer Make : <b>SPECTRUM</b>	As per spec no EDTS 139, Rev- E ,Sec II.	<b>01</b>

**SEE/RCF/RBL**

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

**SSE/EL/QC**

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



# RAIL COACH FACTORY, KAPURTHALA

Form No. : QMF 9454; Version: 03

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Date: 13-06-2013

Shell No.:- RCF/RBL

RLY	Type	LACCN	Coach No.
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## 6.0 Wheel & Axle details:

Items	PP Side				Non PP Side			
Bogie No.	136558				136557			
Frame No.	FIAT-2260				FIAT-2352			
Bolster No.	3072-GT				2786			
Axle No.	J-4392		K-5926		G-8065		K-2237	
Wheel Diameter	918.00	918.00	916.50	917.00	917.50	917.50	917.50	917.50
Wheel Disc No.	119-50854/ ZB13	227-50861/ ZB13	018-50859/ ZB13	269-50854/ ZB13	136-50796/ ZB13	003-51777/ ZB13	081-50846/ ZB13	077-50846/ ZB13
R.B. Nos.	25125	25161	25286	25316	02456	02435	25471	25472
R. B. Make	TIM		TIM		TIM		TIM	
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.	G9-12-505	G11-12-4191	G9-12-443	G11-12-4106	G9-12-445	G11-12-4112	G9-12-496	G11-12-4164
Compressed ht. at tested load	514	467	512	464	513	465	512	467
Alignment deviation (mm)	16	9	13	11	19	12	21	19

## 6.2 Component traceability:

SNO	ITEM	PP Side Bogie	NPP side Bogie	Make
		Sr. nos	Sr. nos.	
1	Primary Outer Spring batch no.	L&S-05-12	L&S-05-12	L&S
2	Primary inner Spring batch no	L&S-09-12	L&S-09-12	L&S
3	Primary Damper	14981,15191,15121,14720	15156,14539,15230,15190	KONI
4	Secondary damper	3385,3148	3260,3873	KONI
5	Lateral Damper	173	174	GEREPI
6	Brake cylinder & Caliper	NOT FITTED	NOT FITTED	
7	Brake Disc			KBI
8	Ball joint Control arm			GMT
9	Lateral Bump stop			GMT
10	Traction center make			SARITA
11	Traction lever make			SARITA
12	Ball joint traction lever			SGA
13	Ball joint Traction centre			GMT
14	Secondary rubber pad			TESPAK
15	Rubber spring			GMT
16	Anti roll bar make			SARITA
17	Roll link make			SARITA
18	Fork make			EMSON
19	YAW DAMPER			-

*Handwritten signature and date*  
13/06/2013