



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: 31/07/2014

SHELL	L	W	A	C	C	N	3	1	6	4	/	2	0	1	3	DATE OF DISPATCH	0	6	0	5	2	0	1	4
RLY	S	W	R	Type	L	W	A	C	C	N	Coach No.	1	4	1	1	8	/	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) 1102(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 2013 NPP END 2808

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/cm ² . ➤ Max. pressure in BC ➤ All Brake are applied	6 – 10 sec. 3.0 ±0.15 kg/cm ² . OK	8 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.	—	87.2
2.	Insulation	Satisfactory		



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RLY	S	W	R	Type	L	W	A	C	C	N	Coach No.	1	4	1	1	8	/	C
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8. DETAIL OF BOGIES :

ITEMS	PP SIDE				NPP SIDE			
Bogie No	146170				146173			
Bogie Type	Fiat				Fiat			
Axle No	RWF-103695		RWF-109237		RWF-109156		RWF-110113	
Wheel Dia	916.00	916.50	915.00	915.00	915.00	915.00	915.00	915.00
Wheel Disc No	307 50854	163-51781	092-50843	289-46889	251-51777	327-50843	197-51782	232-51782
R.B. Nos.	05003	05010	04998	04907	02792	25631	04929	04957
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-13-4-0693	G-13-4-4051	G-13-4-0589	G-13-4-4639	G-13-5-818	G-13-5-4744	G-13-5-833	G-13-5-4914
Compressed Ht. at Tested Load	513	464	512	466	511	467	512	467
Alignment deviation (mm)	16	9	15	8	18	10	22	11

10. TRACEABILITY OF BOGIE ITEMS:

S NO	ITEM	SERIAL NO		MAKE
		PP SIDE	NPP SIDE	
1.	Primary outer Spring	G-13-5	G-13-5	GF
2.	Primary Inner Spring	G-12-5	G-12-5	GF
3.	Primary Damper			SV
4.	Secondary Damper			SACHS
5.	Lateral Damper			SACHS
6.	Yaw Damper			SV SOCKS
7.	Brake Cylinder & Caliper	N13005,N13144 N13001,N13143	N13018,N13011 N13015,N13010	FTI
8.	Brake Disc			KBI
9.	Ball Joint Control Arm			SGA
10.	Lateral Bump Stop			GMT
11.	Traction Centre make			SARITA
12.	Traction lever make			SARITA
13.	Ball joint traction lever			GMT
14.	Ball joint traction centre			SGA
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	8	/	C						

11. TRACEABILITY OF FURNISHING ITEMS:

S NO	ITEM	MAKE/SUPPLIER	SERIAL NO
1.	Air Brake Module	M/s Faively Harita Hasur Tamilnadu	N13026-B
2.	Pull box	M/s Faively Harita Hasur Tamilnadu	
3.	DV	M/s Faively Harita Hasur Tamilnadu	
4.	PVC	M/s Responsive, Colaba, Mumbai	13125526-B
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 KAE Engg. Pvt. Ltd. Satarganj, U.K.	
13.	Non-AC Area Ceiling	M/s Amirchand Engg. Works, Jalandhar	
14.	Supply Air Duct	M/s Amirchand Engg. Works, Jalandhar	
15.	Body Side Doors	M/s JBM Faridabad, Air Flow(door 3)	
16.	Compartment Door (PPE)	M/s Air Flow Chennai	
17.	Compartment Door (NPPE)	M/s Air Flow Chennai	
18.	Vestibule Door(PPE)	M/s KALSI Ludhiana	
19.	Vestibule Door(NPPE)	M/s KALSI Ludhiana	
20.	CDTS	M/s Air Flow Chennai	
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 Shivalik Fasteners, 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	8	/	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

Dy CME/Fu
उप सु० या० अभि०/फर.
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, Raebareilly (Lalganj)



Govt. of India- Ministry of Railways
(RAIL COACH FACTORY-RAEBARELI)



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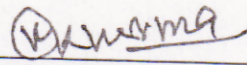
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FOR ELECTRICAL ITEMS

ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

ELECTRICAL TEST CERTIFICATE FOR LHB/EOG AC COACHES

ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES			
ELECTRICAL TEST CERTIFICATE FOR LHB/EOG AC COACHES			
TYPE COACH		LWACCN	SHELL/COACH NO
RAILWAY		SWR	14118/C
		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	31.93 Cub mtr/min	OK
3.2	Return Air	79.47 Cub mtr/min	OK
3.3	Exhaust Air	6.99 Cub mtr/min	OK
3.4	Conditioned Air	191.4 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 PP Side : 21.3°C NPP Side: 22.7°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. PP Side : 22.0°C NPP Side : 22.0°C		OK


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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

(Signature)

Senior Section Engineer
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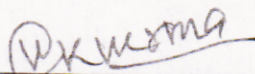
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ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

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-D-084 Sr no of RMPU (PP side) : 14-D-092 Sr no of Microprocessor: AE.14.03.105/AMIT	As per rdso/pe/spes/ac/0061/ rev-1/2005	02
02.	Switch board cabinet Make: ISG Sr no : 0078/03/14	As per spec no . EDTS073,REV-D,AM-6	01
03.	Pump equipment with PLC controller & pump box Make: KALSI Sr no PA: 3431/8/13 Sr no.1 : 243202/8/13 Sr no.2 : 243203/8/13 Sr no.CPA: 3413/8/13	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 : INTEG	EDTS331, TYPE-1 CORR.-1&2	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 Am-1 & 2	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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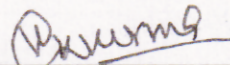
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ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

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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(RAIL COACH FACTORY-RAEBARELI)



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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	As per LW 71001,Alt-F	01
23.	Battery fuse box -ve Make : NEC	As per LW 71002,Alt-F	01
24.	Regulated battery charger Make : STESALIT Sr no: 1213374	As per RDSO/pe/spec/ac/01 29, Rev.-1 (2009)	01
25.	Emergency battery charger Make : BHASIN Sr no: 06130084	EDTS 163,Rev `c` corg.-2&3	01
26.	60KVA transformer Make : PANTRONICS Sr no 1 : 13121822	As per rdso/pe/spec/ac/008 0/rev-0 (2007)/Am- 1&2/Corr. 1,2&3	01
27.	ZS coupling 400A/750V/03Ph/50hz. Make : S.INTERNATIONAL	As per spec No EDTS 105,Rev `e` Am-2	02 sets
28.	Feeder junction boxes. Make : NEC	EDML 020,Rev-I	02
29.	Wheel set earthling equipment. Make : CHANDA&CHANDA	EDTS101,REV- C,AM-1	02
30.	Wheel Slide Protection System (WSP) Make: FAIVELEY Sr no : 40/13/211	M/s : FAIVELEY	01 set
31.	PANTRY EQUIPMENTS : Hot Case & Bottle cooler cum deep freezer Make : SUPER REFRIGERATION	As per spec no EDTS 139, Rev- E ,Sec II.	01

SEE/RCF/RBL	SSE/EL/QC

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

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



रेल कोच फैक्टरी, कपूरथला
RAIL COACH FACTORY, KAPURTHALA



Form No. : QMF 9454; Version: 03

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Date: 08-03--2014

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.	146170				146173			
Frame No.	FIAT-2924				FIAT-2890			
Bolster No.	3656-GT				3653-GT			
Axle No.	RWF-103695		RWF-109237		RWF-109156		RWF-110113	
Wheel Diameter	916.00	916.50	915.00	915.00	915.00	915.00	915.00	915.00
Wheel Disc No.	307-50854	163-51781	092-50843	289-46889	251-51777	327-50843	197-51782	232-51782
R.B. Nos.	05003	05010	04998	04907	02792	25631	04929	04957
R. B. Make	TIMKEN		TIMKEN		TIMKEN		TIMKEN	
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.	G-13-4-0693	G-13-4-4051	G-13-4-0589	G-13-4-4639	G-13-5-818	G-13-5-4744	G-13-5-833	G-13-5-4914
Ht. Attest Load	513	464	512	466	511	467	512	467
Align. deviation	16	9	15	8	18	10	22	11

6.2 Component traceability:

SNO	ITEM	PP Side Bogie	NPP side Bogie	Make
1	Primary Outer Spring batch no.	G13-5	G13-5	GF
2	Primary inner Spring batch no	G12-5	G12-5	GF
3	Primary Damper			SV
4	Secondary damper			SACHS
5	Lateral Damper			SACHS
6	Brake cylinder & Caliper			---
7	Brake Disc			KBI
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			TESPAK
15	Rubber spring			GMT
16	Anti roll bar make			SARITA
17	Roll link make			SARITA
18	Fork make			EMSON

AL
29/03/14
SJE/AC/Bgk