C37-975

Modern Coach Factory Raebareli आधुनिक रेल डिब्बा कारख़ाना, रायबरेली	DOC NO.: MCF/RBL/QMF 8002 REV NO: 01 DATE: 17.04.2018

ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: MCF/RBL/QC/RSC/2018-19/561

RLY	C	R	-	Coach No.	1	8	1	7	2	2	/	C	DATE OF DISPATCH	2	6	-	0	9	-	1	8

DISPATCH TO	Sr.DME(COG) /BB	Type	L	W	A	C	C	N	Shell No.	8	3	1	9	9	-	2	0	1	8	-	1	9

1. Railway Board's Order No. : **2018/M(C)/142/2 dated -14-09-2018**
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) 1104 (NPPE) 2) 1105 (PPE)

5. TRACEABILITY OF SHELL ITEMS:

S NO	ITEM		MAKE/SUPPLIER		SERIAL NO			
1.	Underframe	Front Part	PP END	M/S SICO	182			
			NPP END	M/S SICO	182			
		Complete	M/S SICO		182			
2.	Lav.side wall		M/S CONTRACTOR V4U		LAV.1	515	LAV.2	516
			M/S CONTRACTOR V4U		LAV.3	517	LAV.4	518
3.	Side wall	LH SIDE	MCF/RBL		176			
		RH SIDE	MCF/RBL		176			
4.	End wall	PP END	M/S OMAX, REWARI (HR)		18			
		NPP END	M/S DTL		18			
5.	Roof		M/s JSL		07			
6.	Centre Buffer Coupler		M/S ESCORT		PP END	5586	NPP END	5672

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	09 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 DETAILS:

S NO	DESCRIPTION	TYPE OF PAINT	MAKE	APPLICATION BY MCF/ CONTRACTOR(SUPPLY & APPLY)	AVERAGE GLOSS VALUE
1.	Paint	P.U	M/S –GS	SUPPLY & APPLY	90/87
2.	Insulation			Satisfactory	

Reema

SSE/QC/MCF/RBL

MODERN COACH FACTORY, RAEBARELI आधुनिक रेल डिब्बा कारखाना, रायबरेली	DOC NO.: MCF/RBL/QMF 8002 REV NO.: 01 DATE: 16.05.2016

ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: MCF/RBL/QC/RSC/561

Coach No.	1	8	1	7	2	2	/	C	-	DATE OF DISPATCH	2	6	.	0	9	.	1	8

RLY	C	R			Type	L	W	A	C	C	N	Shell No.	8	3	1	9	9	-	-	-	-	-	-	-	-

8. DETAIL OF BOGIES :

ITEMS	NPP Side				PP Side			
Bogie No	181370				181369			
Bogie Type	LWACCN				LWACCN			
Frame no.	VS/RBL-1004				VS/RBL-1211			
Bolster no.	MCF/RBL-1814				AMIT-331			
Axle No	17D -3576 RWF		17 C -4135 RWF		18 D- 8112 RWF		17 D– 3682 RWF	
Wheel Dia	917.539	917.652	917.477	917. 601	917.601	917.65	917.593	917.638
Wheel Disc No	*TZ-03-18 07193-8MN9*	*TZ-03-18* 07191-8MV9	*TZ-02-18* 05717-8MH9	*TZ02-18* 05722-8MH0	*TZ03-18* 07744-8MP1	*TZ03-18 07229-8MV9*	*TZ03-18* 07758-8MV9	*TZ03-18* 07228-8MV9
R.B. Nos.	*05-18 27813*	04-18 25928	05-18 28072	04-18 25947	05-18 36464	*04-18 24886*	05-18 36512	04-18 25936
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.	CMRSK02-18-F16-507-16Y-148	CMFSK07-18-9513-443-144	CMRSK08-18F16-537-16Y-152	CMFSK07-18-9513-443-94	CMRSK02-18-F16-S07-16Y-154	CMFSK07-18-9513-443-219	CMFSK02-18-F16-S07-16Y-150	CMFSK07-18-9513-401-100
Compressed Ht. at Tested Load	515	463	515	463	515	463	514	463
Alignment deviation (mm)	4	10	8	11	8	9	6	9

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10. **TRACEABILITY OF BOGIE ITEMS:**

S. NO	ITEM	MAKE/ SUPPLIER	SERIAL NO.	
			NPP SIDE	PP SIDE
1.	Yaw Damper	KBI	8837,9521	9538,9610
2.	Primary outer Spring	RSK	07-18 03Y- (282,511,829,137)	08-18 03Y(822,431,861,1111)
3.	Primary Inner Spring	CMGBD	05-18-143 (58-635,58-209,59-267,58-104)	05-18-143 (58-246,59-413,59-242,58-392)
4.	Primary Damper	GBES	07-18(26733,26734,26746,26706)	07-18(26713,26732,26749,26714)
5.	Secondary Damper	KNORR	06-18 (5143,5439)	07-18 5451,06-18 5144
6.	Lateral Damper	KNORR	06-18 3934	06-18 4006
7.	Brake Cylinder	ESCORT	39693,39399,39371,38178	39719,39370,40398,40503
8.	Brake Caliper	ESCORT	22191,21928,21900,21136	22217,21899,22653,22686
9.	Brake Disc	FAV	08-18(1020,1091,1066,889) -D133561-300	08-18(1079,1037,907,906)-D133561-300
10.	Ball Joint Control Arm	AR		
11.	Lateral Bump Stop	AR		
12.	Traction Centre make	SARITA		
13.	Traction lever make	JI		
14.	Ball joint traction lever	AR		
15.	Ball joint traction centre	AR		
16.	Secondary Rubber Pad	DUREL		
17.	Rubber Spring	AR		
18.	Anti roll bar make	SARITA		
19.	Roll Link make	SARITA/GMT/AR		
20.	Fork make	EMSON		
21.	Control Arm Upper	RVE	010818-2,RVE,250718-1,RVE	RVE,030818-1,200718-1,030618-1
22.	Control Arm Lower	RVE	030818-1,RVE,010818-1,030818-1	030818-1,030818-2,RVE,030818-1

Signature of SSE/Bogie/QC

Modern Coach Factory Raebareli

आधुनिक रेल डिब्बा कारख़ाना, रायबरेली

DOC NO.: MCF/RBL/QMF 8002
REV NO: 01
DATE: 17.04.2018

ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: MCF/RBL/QC/RSC/2018-19/561

RLY	C	R	-	Coach No.	1	8	1	7	2	2	/	C	DATE OF DISPATCH	2	6	-	0	9	-	1	8

DISPATCH TO	Sr.DME(COG) /BB	Type	L	W	A	C	C	N	Shell No.	8	3	1	9	9	-	2	0	1	8	-	1	9

11. TRACEABILITY OF FURNISHING ITEMS:

S NO	ITEM	MAKE/SUPPLIER	SERIAL NO
1.	Air Brake Module	M/S Escorts ltd railway equipment FBD	2018020027
2.	Pull box	M/s Faively trans. tech.india ltd baddi(HP)	
3.	Distribution valve	M/S Escorts ltd railway equipment FBD	1802A027
4.	Foot Step	M/s HITECH INER AVENTUROS PVT. LTD. RBL	
5.	Decoupling arrangement	M/s ELASTOMER LINING WORKS. MUMBAI	
6.	Floor board	M/s NARMADA FOREST PVT. LTD. BHOPAL	
7.	PVC	M/s RESPONSIVE INDS. LTD. MUMBAI	
8.	UIC Vestibule (PPE)	M/s-Suncrest ind.kolkata	
9.	UIC Vestibule (NPPE)	M/s-Suncrest ind.kolkata	
10.	Gangway bridge mounting (PPE)	M/s Rakesh iron store KXH	
11.	Gangway bridge mounting (NPPE)	M/s Rakesh iron store KXH	
12.	Body Side Window	M/s Birkan engg.pvt.ltd.GAZIABAD	
13.	Emergency Window	M/s Birkan engg.pvt.ltd.GAZIABAD	
14.	Lavatory/hopper Window	M/s Aikon ind.salon H.P	
15.	Roof Ceiling	M/s MOBILITY SOLUTION LTD. MOHALI	
16.	Door way /gang way ceiling	M/s Amirchand engg.works Jalandhar	
17.	Supply Air Duct	M/s Amirchand engg.works Jalandhar	
18.	Partition panel	M/s- RAIL TECH, KHX	
19.	Partition pillar	M/s JR IND. Jalandhar	
20.	Side Wall panel	M/s Hindustan fibre ltd vadodara	
21.	AC Trough	M/s MOBILITY SOLUTION LTD. MOHALI (PP) (NPPE)	
22.	Body Side Door	M/s JBM INDUSTRIES LTD.FARIDABAD	
23.	Compartment Door (PPE)	M/s KALSI FAB PVT. LTD.	
24.	Compartment Door (NPPE)	M/s KALSI FAB PVT. LTD.	
25.	Vestibule Door(PPE)	M/s Hanspal Ttraders, KXH	
26.	Vestibule Door(NPPE)	M/s Hanspal Ttraders, KXH	
27.	Bio Tank	M/s FLASH FORGE(P) LTD. VIZAG	
28.	Auxiliary Water Tank	M/s Manoj Engineering, Mohali	
29.	Under Slung Water Tank (2X685L)	M/s Shivalic fastners pvt.ltd. mohali	
30.	Under Slung Water Tank (1x450 L)	M/s Amit Engg, Mohali	
31.	Flexible Faucet	M/s-ARHAM HI-TECH DEG. SOLUTION PVT.LTD. MUMBAI	
32.	Lotah Filler Tap	M/s-ARHAM HI-TECH DEG. SOLUTION PVT.LTD. MUMBAI	
33.	Bib cock	M/s KPR INDUSTRIES LTD. MOHALI	
34.	Lavatory Modoules	M/s-ARHAM HI-TECH DEG. SOLUTION PVT.LTD. MUMBAI	
35.	Lavatory Doors	M/s-ARHAM HI-TECH DEG. SOLUTION PVT.LTD. MUMBAI	
36.	Fire Extinguisher	M/s- AGGRAWAL FIRE SERVICE LTD. (ATASEE)	NPP-7655,PP-2423
37.	Seat & Berth	M/s Ananya RCC IND. LLJ/RBL	
38.	Light Luggage Rack	M/s- Techno ind. ALD	
39.	Snack Table	M/s- MACHINO PLASTIES LTD. GURGAON	

SSE/QC/MCF/RBL

Modern Coach Factory Raebareli आधुनिक रेल डिब्बा कारख़ाना, रायबरेली	DOC NO.: MCF/RBL/QMF 8002 REV NO: 01 DATE: 17.04.2018

ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: MCF/RBL/QC/RSC/2018-19/561

RLY	C	R	-	Coach No.	1	8	1	7	2	2	/	C	DATE OF DISPATCH	2	6	-	0	9	-	1	8

DISPATCH TO	Sr.DME(COG) /BB	Type	L	W	A	C	C	N	Shell No.	8	3	1	9	9	-	2	0	1	8	-	1	9

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 clutch wire etc. (items which are consumable in nature)	NIL
2	Other coach furnishing sub assemblies(bought out items)	24 months from the date of dispatch of coach OR 30 months from the 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.

वरि0अनु0 अभियंता रेल डिब्बा कारख़ाना रेडिओका0, रायबरेली (लालगंज)	जी.एस. पाण्डेय Assistant Mechanical Engineer/Quality आधुनिक रेल डिब्बा कारखाना, रायबरेली Modern Coach Factory, Raebareli	उप मुख्य गुणवत्ता प्रबन्धक Dy. Chief Quality Manager आधुनिक रेल डिब्बा कारखाना, रायबरेली Modern Coach Factory, Raebareli
SSE/QC/MCF/RBL	AME/QC/MCF/RBL	Dy.CQM/MCF/RBL

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**	**181722/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	**19.44** Cub mtr/min	OK
3.2	Return Air	**39.39** Cub mtr/min	OK
3.3	Exhaust Air	**7.17** Cub mtr/min	OK
3.4	Conditioned Air	**161.46** 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 :**21.6 ^{0}C** NPP Side :**22.4 ^{0}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		OK

Senior Section Engineer
Quality control / Electrical
Modern Coach Factory Raebareli

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 :	
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
Modern Coach Factory Raebareli

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 : **AMIT ENGG.** Sr no of RMPU (NPP side):**2894-H** Sr no of RMPU (PP side) : **2889-H** Sr no of Microprocessor:**AE-17.07.108**	As per rdso/pe/spes/ac/0061/rev-1/2005	**02**
02.	Switch board cabinet Make : **AMIT ENGG.** Sr no : **AE/SB-594**	RDSO/PE/SPEC/AC/0184-2015 REV-0	**01**
03.	Pump equipment with PLC controller & pump box Make : **KALSI** Sr no PA : **7315/7/18** Sr no.1 : **294530** Sr no.2 : **294531** Sr no.CPA :**7325/7/18**	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.	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/RT VISION**	As per RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-L	**09**
07.	Corridor Light with Night light Make: **DR AUTO/RT VISION**	RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-M	**09**
08.	Emergency light system for EOG type coaches (AEL) Make : **VGS**	EDTS 151,Rev –c Am-1 & 2	**04**
09.	Lavatory light fitting assly Make : **ARHAM**	LW 76001,Alt nil	**04**
10.	Toilet indication (WC) light, Make: **AGASTYA**	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**

Senior Section Engineer
Quality control / Electrical
Modern Coach Factory Raebareli

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 :**08/18**	EDTS 129,Rev nil	**01 set**
20.	Battery box for LHB coaches. Make : **ANKUR ENGG.**	1 10113 0 76 700 005 w/o item 5,22 ,23 ,26 & 27.	**01**
21.	Battery fuse box +ve Make : **INTEG**	As per LW 71001,Alt-F	**01**
22.	Battery fuse box –ve Make : **INTEG**	As per LW 71002,Alt-F	**01**

Senior Section Engineer
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Modern Coach Factory Raebareli

ROLLING STOCK CERTIFICATE OF LHB/EOG AC COACHES

Sr no	Description	Drg/Spec no.	Quantity per Coach
23.	Emergency battery charger Make :**WAVES** Sr no: **WEBCG-184757** Make :**NAREN** Sr no: **1808384**	EDTS 163,Rev `c' corg.-2&3	**02**
24.	Provision of 5KVA TFR Make : **VIMAL** SL.no : **VTC-3089-LHB-191**	As Per EDTS-366,REV-NIL & CC-71510	**01**
25.	Provision of capacitor Bank Make :**S.INTERNATIONAL** SL.no :**257-01/18**	As per EDML-130 Rev-1,Corr-1	**01**
26.	60KVA transformer Make : **VIMAL** SL.no : **VTC-3089-LHB-4719**	As per rdso/pe/spec/ac/0080/rev-0 (2007)/Am-1&2/Corr. 1,2&3	**01**
27.	Inter Vehicle (ZS)coupler Make: **PRIME ELECT.**	As per RDSO PE SPEC-0177-2013 REV-0	**01 set**
28.	Feeder junction boxes. Make : **ISG**	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 :**170076-11932-0023**	M/s : **ESCORT**	**01 set**
31.	PANTRY EQUIPMENTS : Hot Case & Bottle cooler cum deep freezer Make : NIL	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
आर.बी.रेल्वे / 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