



# Modern Coach Factory Raebareilly

आधुनिक रेल डिब्बा कारखाना, रायबरेली

DOC NO.: MCF/RBL/QMF  
8002/LBAC  
REV NO: 00  
DATE: 21.02.2019

## ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: MCF/RBL/QC/RSC/2019-20/993

|     |   |   |   |           |   |   |   |   |   |   |   |   |                  |   |   |   |   |   |   |   |   |
|-----|---|---|---|-----------|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|
| RLY | W | R | - | Coach No. | 1 | 9 | 7 | 2 | 1 | 9 | / | C | DATE OF DISPATCH | 3 | 1 | - | 1 | 0 | - | 1 | 9 |
|-----|---|---|---|-----------|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|

|             |            |      |   |   |   |   |   |   |           |   |   |   |   |   |         |         |
|-------------|------------|------|---|---|---|---|---|---|-----------|---|---|---|---|---|---------|---------|
| DISPATCH TO | Sr.DME/BCT | Type | L | W | C | B | A | C | Shell No. | 9 | 5 | 0 | 2 | 5 | FUR.NO. | LBAC-53 |
|-------------|------------|------|---|---|---|---|---|---|-----------|---|---|---|---|---|---------|---------|

1. Railway Board's Order No. : 2019/M(C)/142/2, Dated: 25-10-2019

2. Tare Weight of Coach : 39 Tonnes

3. Carrying Capacity : (a) Seating: 15 (b) Sleeping: 15 (c) Luggage: NIL

4. Special feature:-1 Choke of 5/6 mm in DV side replace with 9 mm in both type (KBI & Faiveley) letter no. MC/LHB/Brake, Dated 27.09.2018

2 - RFID ( Radio frequency identification ) fitted for traceability of coach

### 5. 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                       | 4039                         |
| 4.   | CBC height/Buffer height from Rail level 1105 +0/-10 | 1) 1105 (NPPE) 2) 1105 (PPE) |

### 6. TRACEABILITY OF SHELL ITEMS:

| S NO | ITEM                  | MAKE/SUPPLIER     | SERIAL NO                  |
|------|-----------------------|-------------------|----------------------------|
| 1.   | Under frame           | Front Part        | PP END M/s-JBM             |
|      |                       | Complete          | NPP END M/s-M.TECH         |
|      | MCF/RBL               |                   | 95025                      |
| 2.   | Lav. side wall        | M/s-RAIL TECH KXH | LAV.1 --- LAV.2 ---        |
|      |                       | M/s-RAIL TECH KXH | LAV.3 --- LAV.4 ---        |
| 3.   | Side wall             | LH SIDE           | MCF/RBL                    |
|      |                       | RH SIDE           | MCF/RBL                    |
| 4.   | End wall              | PP END            | M/s-RAIL TECH KXH          |
|      |                       | NPP END           | M/s-RAIL TECH KXH          |
|      |                       | M/s-MCF           | 14                         |
| 5.   | Roof                  | M/s-MCF           | 14                         |
| 6.   | Centre Buffer Coupler | M/S- SANROK       | PP END 13441 NPP END 13392 |

### 7. 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 <sup>2</sup> .<br>➤ Max. pressure in BC<br>➤ All Brake are applied | 6 - 10 sec.<br>3.0 ±0.15 kg/cm <sup>2</sup> .<br>OK | 08 sec.<br>3.0 kg/cm <sup>2</sup> OK |
| 2.   | Insensitivity          | ➤ Exhaust BP @ 0.3 kg/cm <sup>2</sup> /min.                                                                      | No brake application                                | OK                                   |
| 3.   | Sensitivity            | ➤ Exhaust BP @ 0.1 kg/cm <sup>2</sup> /Sec, after 06 Sec.                                                        | Brake must apply                                    | OK                                   |

### 8. PAINTING DETAILS:

| S NO | DESCRIPTION | TYPE OF PAINT | MAKE         | APPLICATION BY MCF/ CONTRACTOR(SUPPLY & APPLY) | AVERAGE GLOSS VALUE | DATE OF COMPLETION |
|------|-------------|---------------|--------------|------------------------------------------------|---------------------|--------------------|
| 1.   | Paint       | P.U           | M/S- VIBGYOR | (SUPPLY & APPLY)                               | 89/88               | 17.08.19           |
| 2.   | Insulation  |               |              | Satisfactory                                   |                     |                    |

*[Signature]*  
SSE/OC/MCF/RBL  
गुणवत्ता विभाग  
रेल डिब्बा कारखाना, रायबरेली (लागूगंज)







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/2019-20/993

|     |   |   |   |           |   |   |   |   |   |   |   |   |   |                  |   |   |   |   |   |   |   |   |
|-----|---|---|---|-----------|---|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|
| RLY | W | R | - | Coach No. | 1 | 9 | 7 | 2 | 1 | 9 | / | C | - | DATE OF DISPATCH | 3 | 1 | 1 | 0 | 2 | 0 | 1 | 9 |
|-----|---|---|---|-----------|---|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|

|          |            |      |   |   |   |   |   |   |           |   |   |   |   |   |        |         |
|----------|------------|------|---|---|---|---|---|---|-----------|---|---|---|---|---|--------|---------|
| DISPATCH | Sr.DME/BCT | Type | L | W | C | B | A | C | Shell No. | 9 | 5 | 0 | 2 | 5 | FUR.NO | LBAC-53 |
|----------|------------|------|---|---|---|---|---|---|-----------|---|---|---|---|---|--------|---------|

#### 9. DETAIL OF BOGIES:

| ITEMS         | NPP Side               |                        |                        |                        | PP Side                |                        |                        |                        |
|---------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Bogie No      | 194068                 |                        |                        |                        | 194067                 |                        |                        |                        |
| Bogie Type    | FIAT                   |                        |                        |                        | FIAT                   |                        |                        |                        |
| Frame no.     | WIL-353                |                        |                        |                        | WIL-366                |                        |                        |                        |
| Bolster no.   | MCF/RBL-LS5-823        |                        |                        |                        | RBL-LS5-891            |                        |                        |                        |
| Axle No       | 19 P-7080 RWF          |                        | 19 P - 6293 RWF        |                        | 19 R-1043 RWF          |                        | 19 P 7582 - RWF        |                        |
| Wheel Dia     | 917.527                | 917.592                | 917.596                | 917.624                | 917.534                | 917.608                | 917.525                | 917.63                 |
| Wheel Disc No | TZ 11-18<br>12013-8W19 | TZ 05-19<br>47823-9PE0 | TZ 04-19<br>34022-90E6 | TZ 04-19<br>33896-90F4 | TZ 03-19<br>31883-90D9 | TZ 04-19<br>35765-90E6 | TZ 05-19<br>47824-9PE0 | TZ 11-18<br>12012-9WM9 |
| R.B. Nos.     | 07-19 17288            | 07-19 17036            | 07-19 16640            | 07-19 17090            | 07-19 16726            | 07-19 16114            | 07-19 16765            | 07-19 17181            |
| CT R B Make   | TIMKEN                 |                        | TIMKEN                 |                        | TIMKEN                 |                        | TIMKEN                 |                        |

#### 10. SECONDARY SUSPENSION LOAD DEFLECTION VALUES :-

| DESCRIPTION | Bogie NPP side                   |                                  | Bogie PP side                    |                                 |
|-------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|
|             | Secondary 1                      | Secondary 2                      | Secondary 1                      | Secondary 2                     |
| Make & Nos. | TAYAL & CO.<br>Sr.NO. 18-09 1015 | TAYAL & CO.<br>Sr.NO. 18-09 1097 | TAYAL & CO.<br>Sr.NO. 18-09 1071 | TAYAL & CO.<br>Sr.NO. 18-09 996 |

#### 11. TRACEABILITY 90F BOGIE ITEMS :-

| S. NO | ITEM                       | MAKE/SUPPLIER            | SERIAL NO.                                                                         |                                                                                    |
|-------|----------------------------|--------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|       |                            |                          | NPP SIDE                                                                           | PP SIDE                                                                            |
| 1.    | Yaw Damper                 | KBI                      | 13919,13925                                                                        | 13932,12313                                                                        |
| 2.    | Primary outer Spring       | CMFSK                    | 03-19 7411-545(1647,1477,1531,1295)                                                | 03-19 7411-545(1650,1358,1402,1721)                                                |
| 3.    | Primary Inner Spring       | CMSTL                    | 02-19 F08-551(5849,5199,5364,6152)                                                 | 02-19 F08-551(9932,6115,6147,5784)                                                 |
| 4.    | Primary Damper             | KONI                     | 03-19 (00545,00823,00543,01008)                                                    | 03-19 (03026,00604,03214,00278)                                                    |
| 5.    | Secondary Damper           | IAI                      | 01-19(238057,237919)                                                               | 01-19(238161,237932)                                                               |
| 6.    | Lateral Damper             | GABRIEL                  | 07-18 611                                                                          | 07-18 613                                                                          |
| 7.    | Brake Cylinder             | KBI                      | B(6106,5183,5208,6016)K-29                                                         | B(6103,5181,5175,6100)K-29                                                         |
| 8.    | Brake Caliper              | KBI                      | B(3520,3524,3555,3444) -29                                                         | B(3518,3522,3525,3519) -29                                                         |
| 9.    | Brake Disc                 | KBI                      | 24185221 0056-18/19,24185222 0040-18/19<br>24178934 0091-10/19,24178933 0011-10/19 | 24185223 0010-18/19,24185222 0041-18/19<br>24178933 0023-18/19,24178933 0022-11/19 |
| 10.   | Ball Joint Control Arm     | GMT/AR                   |                                                                                    |                                                                                    |
| 11.   | Lateral Bump Stop          | AR                       |                                                                                    |                                                                                    |
| 12.   | Traction Centre make       | SARITA                   |                                                                                    |                                                                                    |
| 13.   | Traction lever make        | TAJ                      |                                                                                    |                                                                                    |
| 14.   | Ball joint traction lever  | BASANT/AR                |                                                                                    |                                                                                    |
| 15.   | Ball joint traction centre | AR                       |                                                                                    |                                                                                    |
| 16.   | Leveling Valve             | KNORR                    | 16-19 B 3590,16-19 B 3753                                                          | 16-19 B 5742,16-19 B 5748                                                          |
| 17.   | Check Valve                | KNORR                    | 05-19 18577                                                                        | 05-19 18572                                                                        |
| 18.   | Anti roll bar Make         | EMSON                    |                                                                                    |                                                                                    |
| 19.   | Roll Link make             | SARITA/AR,<br>SARITA/GMT |                                                                                    |                                                                                    |
| 20.   | Fork make                  | EMSON                    |                                                                                    |                                                                                    |
| 21.   | Control Arm Upper          | CC                       | 23,79,23,108                                                                       | 58,8,50,14                                                                         |
| 22.   | Control Arm Lower          | CC                       | 28,43,78,68                                                                        | 7,64,36,61                                                                         |
| 23.   | Phonic Wheel               | KNORR                    | 06-19                                                                              | 05-19                                                                              |

Signature of SSE/Bogie/QC





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|-----------------------------------------------------|---|------------|---|-----------|---|------|---|---|---|---|---|---|------------------|-----------|---|---|---|---|---|---------|---------|
| g Stock Certificate No.: MCF/RBL/QC/RSC/2019-20/993 |   |            |   |           |   |      |   |   |   |   |   |   |                  |           |   |   |   |   |   |         |         |
| RLY                                                 | W | R          | - | Coach No. | 1 | 9    | 7 | 2 | 1 | 9 | / | C | DATE OF DISPATCH | 3         | 1 | - | 1 | 0 | - | 1       | 9       |
| DISPATCH TO                                         |   | Sr.DME/BCT |   |           |   | Type |   | L | W | C | B | A | C                | Shell No. | 9 | 5 | 0 | 2 | 5 | FUR.NO. | LBAC-53 |

**12. TRACEABILITY OF FURNISHING ITEMS:**

### 12. TRACEABILITY OF FURNISHING ITEMS:

| S NO | ITEM                             | MAKE/SUPPLIER                                | SERIAL NO        |
|------|----------------------------------|----------------------------------------------|------------------|
| 1.   | Air Brake Module                 | M/S -FAIVELY TRANS. TECH.INDIA LTD BADDI(HP) | D19073B          |
| 2.   | Distribution valve               | M/S -FAIVELY TRANS. TECH.INDIA LTD BADDI(HP) | 19045569B        |
| 3.   | Pull box                         | M/s- KBI, FARIDABAD                          |                  |
| 4.   | Fiba Device                      | M/s- KBI, FARIDABAD                          |                  |
| 5.   | Foot Step                        | M/S- SUPER SPARK PVT.LTD.FARIDABAD           | PP-7867/29       |
| 6.   | Decoupling arrangement           | M/S-ELASTOMER LINING WORKS, MUMBAI           | NPP-8113/29      |
| 7.   | Floor board                      | M/s- SHRI RAM PANELS, PUNJAB                 |                  |
| 8.   | PVC                              | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 9.   | UIC Vestibule (PPE)              | M/S-SUNCREST IND.KOLKATA                     |                  |
| 10.  | UIC Vestibule (NPPE)             | M/S-SUNCREST IND.KOLKATA                     |                  |
| 11.  | Gangway bridge mounting (PPE)    | M/s- MAHAVEER METAL WORKS, KXH               |                  |
| 12.  | Gangway bridge mounting (NPPE)   | M/s- MAHAVEER METAL WORKS, KXH               |                  |
| 13.  | Body Side Window                 | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 14.  | Emergency Window                 | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 15.  | Lavatory/hopper Window           | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 16.  | Automatic Fire Detection System  | M/S- SANROK, FARIDABAD                       |                  |
| 17.  | Roof Ceiling                     | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 18.  | Door way /gang way ceiling       | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 19.  | Supply Air Duct                  | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 20.  | Partition panel                  | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 21.  | Partition pillar                 | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 22.  | Side Wall panel                  | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 23.  | AC Trough                        | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 24.  | Body Side Doors 1                | M/S- JBM INDUSTRIES, FARIDABAD               |                  |
| 25.  | Body Side Doors 2                | M/S- SUKATA PVT. LTD PKL                     |                  |
| 26.  | Compartment Door                 | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 27.  | Vestibule Door(PPE)              | M/S- HANSAL TRADERS, KXH                     |                  |
| 28.  | Vestibule Door(NPPE)             | M/S- HANSAL TRADERS, KXH                     |                  |
| 29.  | Pantry sliding door              | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 30.  | Saloon sliding door(PPE)         | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 31.  | Saloon sliding door(NPPE)        | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 32.  | FRP panels for pantry room       | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 33.  | Shutter (small)                  | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 34.  | Bio Tanks                        | M/S- JSL LIFE STYLE LTD.                     |                  |
| 35.  | Auxiliary Water Tanks            | M/s- AMIT ENG. MOHALI                        |                  |
| 36.  | Under Slung Water Tank ( 2X685L) | M/s- SHIVALIK FAST. MOHALI                   |                  |
| 37.  | Under Slung Water Tank (1x450 L) | M/s- AMIT ENG. BADDHI                        |                  |
| 38.  | Flexible Faucet                  | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 39.  | Lotah Filler Tap                 | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 40.  | Bib cock                         | M/s- JAQUAR PVT. LTD. ALWAR                  |                  |
| 41.  | Lavatory Modules                 | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 42.  | Lavatory Doors                   | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 43.  | Fire Extinguisher                | M/s-CAPITAL FIRE                             |                  |
| 44.  | Seat & Berth                     | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    | Sr.no-09808      |
| 45.  | WATER PURIFIRE                   | M/S- HINDUSTAN FIBRE GLASS WORKS,VADODARA    |                  |
| 46.  | RFID                             | M/S-TECH SOLUTION PVT LTD.                   | Sr.105738,105737 |

वरिष्ठ अनुसंधान अभियंता

गुणवत्ता विभाग

रेल डिब्बा कारखाना, रायबरेली (लालगंज)







# Modern Coach Factory Raebareli

आधुनिक रेल डिब्बा कारखाना, रायबरेली

DOC NO.: MCF/RBL/QMF  
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## ROLLING STOCK CERTIFICATE

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|-------------------------------------|---|------------|---|-----------|---|------|---|---|-----|---|---|---|------------------|-----------|---|---|---|---|---|---------|---------|--|--|
| Form No. MCP/RBL/QC/RSC/2019-20/993 |   |            |   |           |   |      |   |   |     |   |   |   |                  |           |   |   |   |   |   |         |         |  |  |
| RLY                                 | W | R          | - | Coach No. | 1 | 9    | 7 | 2 | 1   | 9 | / | C | DATE OF DISPATCH | 3         | 1 | - | 1 | 0 | - | 1       | 9       |  |  |
| DISPATCH TO                         |   | Sr.DME/BCT |   |           |   | Type |   | L | W   | C | B | A | C                | Shell No. | 9 | 5 | 0 | 2 | 5 | FUR.NO. | LBAC-53 |  |  |
| 13. MODIFICATION (IF ANY)           |   |            |   |           |   |      |   | : | NIL |   |   |   |                  |           |   |   |   |   |   |         |         |  |  |

13. MODIFICATION (IF ANY)

: NIL

14. DEVIATION (IF ANY)

: NIL

15. ITEM FITTED ON THE COACH ON TRIAL : NIL

| S NO | ITEM PARTICULARS | PURPOSE | REPORT<br>Frequency | REFERENCE &<br>PERIOD OF TRIAL |
|------|------------------|---------|---------------------|--------------------------------|
|      |                  |         |                     |                                |

### 16. 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:

- This warranty covers free supply of parts which wear out and fails within warranty period of normal service.
- This doesn't covers faults arising out of accident, non standard maintenance practices, abnormal use or mishandling, vandal activity, arson & deficient/pilferage etc.
- 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.
- Whether a defective part is to be replaced or repaired shall be at the discretion of MCF/RBL.
- For any complain/ suggestion please Mail at qualityrcfbl@gmail.com
- 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<br>(initial gloss >85<br>unit at 60°) | Colour Retention rating on 0-10 scale<br>(initial rating of painted panels/coach or<br>ISC/RAL shade card shall be taken as 10) | Adherence of paints (with each other and<br>with substrate )Cross-cut tape adhesion<br>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.

|                |                |                |
|----------------|----------------|----------------|
|                |                |                |
| SSE/QC/MCF/RBL | SME/QC/MCF/RBL | Dy.CQM/MCF/RBL |

वरिष्ठ अनु 0 अभियंता  
गुणवत्ता विभाग  
रेडिओका, रायबरेली (लालमंज)

सहायक अभियंता (गुणवत्ता-1)  
Assistant Mechanical Engineer / Quality-1  
आधुनिक रेल डिब्बा कारखाना, रायबरेली  
Modern Coach Factory, Raebareli

उप मुख्या गुणवत्ता प्रबन्धक/मेन  
Dy. Chief Quality Manager/Shell  
आधुनिक रेल डिब्बा कारखाना, रायबरेली  
Modern Coach Factory, Raebareli







Modern Coach Factory Raebareli  
आधुनिक रेल डिब्बा कारखाना, रायबरेली

DOC NO.: MCF/RBL/QEF/8001

REV NO: 00

DATE: 25.01.2019

PAGE 1 OF 5

**FOR ELECTRICAL ITEMS**

ROLLING STOCK CERTIFICATE OF LHB/EOG HOG AC HOT BUFFET CAR  
ELECTRICAL TEST CERTIFICATE FOR LHB/EOG HOG AC HOT BUFFET CAR

|                   |                                                                                                                                                                                        |                           |                 |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|
| <b>TYPE COACH</b> | <b>LWCBAC</b>                                                                                                                                                                          | <b>SHELL/COACH NO</b>     | <b>197219/C</b> |
| <b>RAILWAY</b>    | <b>WR</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                                                                                                                                                                              | <b>19.72</b> Cub mtr/min  | OK              |
| 3.2               | Return Air                                                                                                                                                                             | <b>76.95</b> Cub mtr/min  | OK              |
| 3.3               | Exhaust Air                                                                                                                                                                            | <b>6.27</b> Cub mtr/min   | OK              |
| 3.4               | Conditioned Air                                                                                                                                                                        | <b>167.72</b> Cub mtr/min | OK              |
| 4.0               | <b>PRE COOLING TEST: Max 01 hr.</b><br>Time taken to pre cool from 45 deg centigrade to 24/22 deg C during OFF LOAD condition<br><br>PP Side : <b>20.9 °C</b> NPP Side : <b>21.6°C</b> |                           | OK              |
| 5.0               | <b>PULL DOWN TEST: Max 02 hrs.</b><br>Time taken to pull down from 45 deg C to 24/22 deg C during FULL LOAD condition.<br><br><b>Not done</b>                                          |                           | ---             |

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**FOR ELECTRICAL ITEMS**

ROLLING STOCK CERTIFICATE OF LHB/EOG/HOG AC HOT BUFFET CAR

ELECTRICAL TEST CERTIFICATE FOR LHB EOG/HOG AC HOT BUFFET CAR

| 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 PANTRY EQUIPMENTS               | 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 TRANSFORMERS              | OK      |
| 14.0  | WORKING OF REGULATED BATTERY CHARGER       | OK      |
| 15.0  | WORKING OF EMERGENCY BATTERY CHARGER       | OK      |
| 16.0  | SAFETY :                                   |         |
| 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 <b>R 407C</b>             | OK      |

*[Signature]*

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ROLLING STOCK CERTIFICATE OF LHB/EOG/HOG AC HOT BUFFET CAR

| Sr no | Description                                                                                                                                                                                                    | Drg/Spec no.                                                 | Quantity per Coach |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------|
| 01.   | Roof mounted AC package unit for LHB AC coaches Make : <b>AMIT ENGG.</b><br>Sr no of RMPU (NPP side): <b>4136 J</b><br>Sr no of RMPU (PP side) : <b>4123 J</b><br>Sr no of Microprocessor: <b>AE 19.06.500</b> | As per<br>rdso/pe/spes/ac/0061/rev-1/2005                    | <b>02</b>          |
| 02.   | Switch board cabinet<br>Make : <b>ABROL</b><br>Sr no : <b>006-08/2019</b>                                                                                                                                      | As per Spec<br>no.EDTS134,REV.D,AM-5                         | <b>01</b>          |
| 03.   | Pump equipment with PLC controller & pump box Make : <b>DR AUTO</b><br>Sr no PA : <b>2019/08/0097</b><br>Sr no.1 : <b>19080484</b><br>Sr no.2 : <b>19080499</b><br>Sr no.CPA : <b>2019/09/071-DR AUTO</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>ECOFIT</b>                                                    | EDTS331, TYPE-1 CORR.-1&2                                    | <b>01</b>          |
| 05.   | Provision & mounting of Passenger area light(Cabin)<br>Make : <b>RT VISION</b>                                                                                                                                 | RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-L & Drg no LW76090    | <b>09</b>          |
| 06.   | Provision & mounting of Corridor Light with Night light Make : <b>RT VISION</b>                                                                                                                                | RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-M & Drg no LW76091    | <b>09</b>          |
| 07.   | Provision & mounting of Doorway/Gangway light<br>Make : <b>DR AUTO</b>                                                                                                                                         | RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-N & Drg no. LW 76099  | <b>06</b>          |
| 08.   | Provision & Mounting of PACIL Assly.<br>Make : <b>KAVERI</b>                                                                                                                                                   | RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-I Drg no. LW 76098.   | <b>02</b>          |
| 09.   | Provision & Mounting of Toilet indication light,<br>Make : <b>DR AUTO</b>                                                                                                                                      | RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-H1 Drg no. LW 76097.  | <b>01</b>          |
| 10.   | Provision & Mounting of Lavatory Light<br>Make : <b>RT VISION</b>                                                                                                                                              | RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-D & Drg no. LW 76092. | <b>02</b>          |
| 11.   | Terminal connector<br>Make : <b>WAGO</b>                                                                                                                                                                       | EDML 037,Rev`a`                                              | <b>04</b>          |
| 12.   | Provision of terminal strip with flanges<br>Make : <b>WAGO</b>                                                                                                                                                 | As per EDML-034 Rev -A                                       | <b>01SET</b>       |

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| Sr no | Description                                                                                                                                                                                | Drg/Spec no.                                                | Quantity per Coach |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------|
| 13.   | Provision of Four Switch 6A/250V AC Complete With Steel Plate & Cover Frame.<br>Make: <b>SSK</b>                                                                                           | As per Spec no.EDML043,CORR-1                               | <b>04 nos</b>      |
| 14.   | Provision of Twin Switch 6A/250V,Complete With Steel Plate & Cover Frame.<br>Make: <b>SSK</b>                                                                                              | As per Spec no.EDML044,REVNIL,CORR-1                        | <b>03 nos</b>      |
| 15.   | Provision of Single Switch 16A,250V & 6/16A,250V.AC 6-Pin Shuttered Socket Compl. With Steel Plate & Cover Frame,<br>Make: <b>SSK</b>                                                      | As per Spec no.EDML045,CORR-1                               | <b>06 nos</b>      |
| 16.   | Provision of PA System for LHB EOG Rajdhani Rake . Make:- <b>PANJAB RADIO(AHUJA)</b><br>Call box Make: <b>BOSCH</b>                                                                        | As per Spec no.EDTS173,REV.A,AM-3                           | <b>01 set</b>      |
| 17.   | Jumper Cable with Connector for PA System.<br>Make:- <b>MV</b>                                                                                                                             | As per drg no.LW75206,Alt' c                                | <b>01 set</b>      |
| 18.   | 70AH/110V,54 Cells,02V each ,maintenance free pure lead acid tin monoblock ,battery set with 09 modules 12V each. , factory pre charged.<br>Make : <b>AMARA RAJA</b> Lug date : <b>NIL</b> | EDTS 129,Rev nil                                            | <b>01 set</b>      |
| 19.   | Battery box for LHB coaches.<br>Make : <b>HITECH</b>                                                                                                                                       | 1 10113 0 76 700 005 w/o item 5,22 ,23 ,26 & 27.            | <b>01</b>          |
| 20.   | Battery fuse box +ve<br>Make : <b>INDORAIL</b>                                                                                                                                             | As per LW 71001,Alt-F                                       | <b>01</b>          |
| 21.   | Battery fuse box -ve<br>Make : <b>ISGPL</b>                                                                                                                                                | As per LW 71002,Alt-F                                       | <b>01</b>          |
| 22.   | Emergency battery charger<br>Make : <b>BHASIN</b><br>Sr no: <b>08198994</b><br>Make : <b>BHASIN</b><br>Sr no: <b>08198957</b>                                                              | EDTS 163,Rev `c' corg.-2&3                                  | <b>02</b>          |
| 23.   | Provision of capacitor Bank<br>Make : <b>KONTACT</b><br>SL.no: <b>KT-982</b>                                                                                                               | As per EDML-130 Rev-1,Corr-1                                | <b>01</b>          |
| 24.   | 60KVA transformer<br>Make : <b>VIMAL</b><br>Sr no : <b>VTC-R-3089-LHB-1646</b><br>Make: <b>VIMAL</b><br>Sr no : <b>VTC-R-3089-LHB-1856</b>                                                 | As per rdso/pe/spec/ac/0080/rev-0 (2007)/Am-1&2/Corr. 1,2&3 | <b>02</b>          |

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| Sr no | Description                                                                               | Drg/Spec no.                                         | Quantity per Coach |
|-------|-------------------------------------------------------------------------------------------|------------------------------------------------------|--------------------|
| 25.   | ZS coupling 400A/750V/03Ph/50hz.<br>Make : <b>PRIME ELECT.</b>                            | As per spec No EDTS 105, Rev` e' Am-2                | <b>01 set</b>      |
| 26.   | Feeder junction boxes.<br>Make : <b>NEC</b>                                               | EDTS-328 REV-C                                       | <b>01 set</b>      |
| 27.   | Wheel set earthling equipment.<br>Make : <b>PRIME ELECT.</b>                              | EDTS101, REV-C, AM-1                                 | <b>02 sets</b>     |
| 28.   | Wheel Slide Protection System (WSP)<br>Make : <b>FAIVELEY</b><br>Sr no : <b>15/19/569</b> | As per M/s Sab Webco, M/s Knorr Bremse, M/s Escorts. | <b>01 Set</b>      |
| 29.   | Provision of fitment of modular Integrated Pantry unit.                                   | As per spec no EDTS 118, REV-E, AM-2                 | <b>01 Set</b>      |
| 30.   | Hot Plate:                                                                                |                                                      |                    |
| (a)   | Make: <b>SPECTRUM</b>                                                                     |                                                      | <b>03</b>          |
| (b)   | Geysers<br>Make: <b>SPECTRUM</b>                                                          |                                                      | <b>01</b>          |
| (c)   | Hot Water Boilers,<br>Make: <b>SPECTRUM</b>                                               |                                                      | <b>02</b>          |
| (d)   | Bottle Coolers,<br>Make: <b>SPECTRUM</b>                                                  |                                                      | <b>01 set</b>      |
| (e)   | Deep Freezers<br>Make: <b>SPECTRUM</b>                                                    |                                                      | <b>01 set</b>      |
| (f)   | Hot Case,<br>Make: <b>SPECTRUM</b>                                                        |                                                      | <b>01 set</b>      |
| (g)   | Chimneys,<br>Make: <b>SPECTRUM</b>                                                        |                                                      | <b>03</b>          |
| h)    | Oven Toaster Griller<br>Make: <b>SPECTRUM</b>                                             |                                                      | <b>01</b>          |
| (i)   | Refrigerator<br>Make: <b>SAMSUNG</b>                                                      |                                                      | <b>01</b>          |
| (j)   | Insect Killer<br>Make: <b>NIL</b>                                                         |                                                      | <b>02</b>          |

|                               |                            |
|-------------------------------|----------------------------|
|                               |                            |
| <b>SSE/EL/QC</b>              | <b>AWM(ELECT.)/MCF/RBL</b> |
| <b>वरिष्ठ अनुभाग अभियन्ता</b> | <b>SEE(P)/MCF/RBL</b>      |

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