



# Modern Coach Factory Raebareli

DOC NO.: MCF/RBL/QMF 8002

REV NO: 01

DATE: 17.04.2018

आधुनिक रेल डिब्बा कारखाना, रायबरेली

## ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: MCF/RBL/QC/RSC/2019-20/878

|     |   |   |   |           |   |   |   |   |   |   |   |   |                  |   |   |   |   |   |   |   |   |
|-----|---|---|---|-----------|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|
| RLY | C | R | - | Coach No. | 1 | 9 | 7 | 0 | 8 | 0 | / | C | DATE OF DISPATCH | 1 | 4 | - | 1 | 0 | - | 1 | 9 |
|-----|---|---|---|-----------|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|

|             |                |      |   |   |   |   |   |   |           |   |   |   |   |   |         |          |
|-------------|----------------|------|---|---|---|---|---|---|-----------|---|---|---|---|---|---------|----------|
| DISPATCH TO | SSE/STOCK/CSTM | Type | L | W | A | C | C | N | Shell No. | 9 | 3 | 0 | 7 | 5 | FUR.NO. | L3T-1291 |
|-------------|----------------|------|---|---|---|---|---|---|-----------|---|---|---|---|---|---------|----------|

1. Railway Board's Order No. : 2019/M(C)/142/2, dated -03 -06-2019
2. Tare Weight of Coach : 45.6 Tonnes
3. Carrying Capacity : (a) Seating: 72 (b) Sleeping: 72 (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                       | 4250                         |
| 4.   | CBC height/Buffer height from Rail level 1105 +0/-10 | 1) 1099 (NPPE) 2) 1099 (PPE) |

### 6. TRACEABILITY OF SHELL ITEMS:

| S NO | ITEM                  | MAKE/SUPPLIER            | SERIAL NO                |
|------|-----------------------|--------------------------|--------------------------|
| 1.   | Under frame           | PP END M/s-SICO          | 226                      |
|      | Complete              | NPP END M/s-SICO         | 226                      |
| 2.   | Lav. side wall        | M/s-RAIL TECH KXH        | 226                      |
|      |                       | M/s-RAIL TECH KXH        | LAV.1 --- LAV.2 ---      |
| 3.   | Side wall             | MCF/RBL(CONTRACTOR V4U)  | LAV.3 --- LAV.4 ---      |
|      | LH SIDE               | MCF/RBL(CONTRACTOR V4U)  | 74/ 01                   |
|      | RH SIDE               | MCF/RBL(CONTRACTOR V4U)  | 74/ 02                   |
| 4.   | End wall              | PP END M/s-RAIL TECH KXH | ---                      |
|      | NPP END               | M/s-RAIL TECH KXH        | ---                      |
| 5.   | Roof                  | M/s-HANSPAL              | 13                       |
| 6.   | Centre Buffer Coupler | M/S- ESCORTS LTD         | PP END 1567 NPP END 1544 |

### 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 | 07 sec.<br>3.0 kg/cm <sup>2</sup><br>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-VIBGYAR | (SUPPLY & APPLY)                               | 90/89               | 19.09.19           |
| 2.   | Insulation  |               |             | Satisfactory                                   |                     |                    |

SSE/QC/MCF/RBL

गुणवत्ता विभाग  
रेल डिब्बा कारखाना, रायबरेली (लखनऊ)





MODERN COACH FACTORY, RAEBARELI

आधुनिक रेल डिब्बा कारखाना, रायबरेली

DOC NO.: MCF/RBL/QMF 8002

REV NO.: 01

DATE: 16.05.2016

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Rolling Stock Certificate No.: MCF/RBL/QC/RSC/2019-20/878

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|-----|---|---|-----------|---|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|
| RLY | C | R | Coach No. | 1 | 9 | 7 | 0 | 8 | 0 | / | C | - | DATE OF DISPATCH | 1 | 4 | 1 | 0 | 2 | 0 | 1 | 9 |
|-----|---|---|-----------|---|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|

|          |                |      |   |   |   |   |   |   |           |   |   |   |   |   |         |          |
|----------|----------------|------|---|---|---|---|---|---|-----------|---|---|---|---|---|---------|----------|
| DISPATCH | SSE/STOCK/CSTM | Type | L | W | A | C | C | N | Shell No. | 9 | 3 | 0 | 7 | 5 | FUR .NO | L3T-1291 |
|----------|----------------|------|---|---|---|---|---|---|-----------|---|---|---|---|---|---------|----------|

## 9. DETAIL OF BOGIES:

| ITEMS         | PP Side                |                        |                        |                        | NPP Side               |                        |                        |                        |
|---------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Bogie No      | 191103                 |                        |                        |                        | 191104                 |                        |                        |                        |
| Bogie Type    | FIAT                   |                        |                        |                        | FIAT                   |                        |                        |                        |
| Frame no.     | MCF/RBL-1612           |                        |                        |                        | MCF/RBL-1597           |                        |                        |                        |
| Bolster no.   | VS-488                 |                        |                        |                        | VS-486                 |                        |                        |                        |
| Axle No       | 19 L - 2696 RWF        |                        | 19 L - 8107 RWF        |                        | 19 R - 6715 RWF        |                        | 19 R - 1923 RWF        |                        |
| Wheel Dia     | 917.414                | 917.363                | 917.676                | 917.675                | 917.606                | 917.541                | 917.572                | 917.547                |
| Wheel Disc No | TZ 06-19<br>56292-9PF6 | TZ 06-19<br>52546-9QH4 | TZ 06-19<br>57255-9PH8 | TZ 06-19<br>56010-9QK3 | TZ 03-19<br>30223-9MG2 | TZ 06-19<br>54633-9QH9 | TZ 06-19<br>54632-9QH9 | TZ 06-19<br>54542-9QH9 |
| R.B. Nos.     | 07-19-19222            | 07-19-19546            | 07-19-17966            | 07-19-21895            | 07-19-18183            | 07-19-20873            | 07-19-18190            | 07-19-18243            |
| 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                |                             |
|                                  | Outer                       | Inner                       | Outer                       | Inner                       | Outer                       | Inner                       | Outer                      | Inner                       |
| Make & Nos.                      | CMFSK08-19-<br>8836-065-216 | CMFSK05-18-<br>8513-007-232 | CMFSK08-19-<br>8836-065-197 | CMFSK05-18-<br>8513-007-138 | CMFSK08-19-<br>8836-065-213 | CMFSK05-18-8513-<br>007-197 | CMFSK08-19-<br>8836-065-78 | CMFSK05-18-8513-<br>007-129 |
| Compressed Ht. at<br>Tested Load | 514                         | 464.5                       | 514                         | 466.5                       | 512                         | 464                         | 510                        | 467                         |
| Alignment<br>deviation (mm)      | 6                           | 10                          | 10                          | 11                          | 12                          | 10                          | 10                         | 10                          |

## 11. TRACEABILITY OF BOGIE ITEMS :-

| S. NO | ITEM                       | MAKE/<br>SUPPLIER | SERIAL NO.                                                                         |                                                                                    |
|-------|----------------------------|-------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|       |                            |                   | NPP SIDE                                                                           | PP SIDE                                                                            |
| 1.    | Yaw Damper                 | KNORR             | 13668,13663                                                                        | 13669,13666                                                                        |
| 2.    | Primary outer Spring       | CMAFJ             | 05-19 7411(119,108,116,115)                                                        | 05-19 7411(222,111,120,112)                                                        |
| 3.    | Primary Inner Spring       | CMFSK             | 05-19 7143-559(1498,1355,617,1202)                                                 | 05-19 7143-559(1353,1264,456,1163)                                                 |
| 4.    | Primary Damper             | KONI              | 03-19 (05435,02064,00348,06292)                                                    | 03-19 (6279,5849,5825,5936)                                                        |
| 5.    | Secondary Damper           | IAI/KONI          | 01-19 (238039,238303)                                                              | 04-19 (6223,5455)                                                                  |
| 6.    | Lateral Damper             | IAI/KONI          | 05-19 251472                                                                       | 04-19 2847                                                                         |
| 7.    | Brake Cylinder             | FAV               | (D19-581,E19-462,483,273)                                                          | (E19-899,F19-146,137,117)                                                          |
| 8.    | Brake Caliper              | FAV               | E19(1925,1923,1922,1924)B                                                          | F19(799,797,798,800)B                                                              |
| 9.    | Brake Disc                 | KBI               | 24193661 0065-29/19,24193661 0067-29/19<br>24193659 0073-30/19,24195445 0050-30/19 | 24125447 0076-30/19,24125447 0075-30/19<br>24125447 0036-30/19,24125447 0035-30/19 |
| 10.   | Ball Joint Control Arm     | AR                |                                                                                    |                                                                                    |
| 11.   | Lateral Bump Stop          | AR/BASANT         |                                                                                    |                                                                                    |
| 12.   | Traction Centre make       | SF                |                                                                                    |                                                                                    |
| 13.   | Traction lever make        | SF                |                                                                                    |                                                                                    |
| 14.   | Ball joint traction lever  | AR                |                                                                                    |                                                                                    |
| 15.   | Ball joint traction centre | AR                |                                                                                    |                                                                                    |
| 16.   | SEC. Rubber pad            | PPI               |                                                                                    |                                                                                    |
| 17.   | Rubber spring Make         | AR                |                                                                                    |                                                                                    |
| 18.   | Anti roll bar Make         | EMSON             |                                                                                    |                                                                                    |
| 19.   | Roll Link make             | SF/AR             |                                                                                    |                                                                                    |
| 20.   | Fork make                  | EMSON             |                                                                                    |                                                                                    |
| 21.   | Control Arm Upper          | NIPHA             | 049,0219,008,217                                                                   | 2001,011,0119,NIPHA                                                                |
| 22.   | Control Arm Lower          | NIPHA/SF          | 08,0465,0050,0219                                                                  | 57,26,11,49                                                                        |
| 23.   | Phonic Wheel               | FAV               | FT/KEP/2                                                                           | FT/KEP/1                                                                           |

Signature of SSE/Bogie/QC



MCF/RBL



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|-----|---|---|---|-----------|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|
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|-----|---|---|---|-----------|---|---|---|---|---|---|---|---|------------------|---|---|---|---|---|---|---|---|

|             |                |      |   |   |   |   |   |   |           |   |   |   |   |   |         |          |
|-------------|----------------|------|---|---|---|---|---|---|-----------|---|---|---|---|---|---------|----------|
| DISPATCH TO | SSE/STOCK/CSTM | Type | L | W | A | C | C | N | Shell No. | 9 | 3 | 0 | 7 | 5 | FUR.NO. | L3T-1291 |
|-------------|----------------|------|---|---|---|---|---|---|-----------|---|---|---|---|---|---------|----------|

### 12. TRACEABILITY OF FURNISHING ITEMS:

| S NO | ITEM                                               | MAKE/SUPPLIER                                   | SERIAL NO           |
|------|----------------------------------------------------|-------------------------------------------------|---------------------|
| 1.   | Air Brake Module                                   | M/S- FAIVELY TRANSPORT TECH.INDIA LTD BADDI(HP) | F19139B             |
| 2.   | Distribution valve                                 | M/S- FAIVELY TRANSPORT TECH.INDIA LTD BADDI(HP) | 19065672B           |
| 3.   | Pull box                                           | M/S- KBI, FARIDABAD                             |                     |
| 4.   | Foot Step                                          | M/S- SUPER SPARK PVT.LTD.FARIDABAD              |                     |
| 5.   | Decoupling arrangement                             | M/S-ELASTOMER LINING WORKS, MUMBAI              |                     |
| 6.   | Floor board                                        | M/s-O.V.P.L. MUMBAI                             |                     |
| 7.   | PVC                                                | M/S- PREMIER POLYFILM, GZB                      |                     |
| 8.   | UIC Vestibule (PPE)                                | M/S-KIRAN RUBBER PRODUCT, PUNE                  |                     |
| 9.   | UIC Vestibule (NPPE)                               | M/S-KIRAN RUBBER PRODUCT, PUNE                  |                     |
| 10.  | Gangway bridge mounting (PPE)                      | M/S- MAHAVEER MATEL WORKS, KAPURTHALA           |                     |
| 11.  | Gangway bridge mounting (NPPE)                     | M/S- MAHAVEER MATEL WORKS, KAPURTHALA           |                     |
| 12.  | Body Side Window                                   | M/s- SHATABDI SAFTY GLASS VADODARA              |                     |
| 13.  | Emergency Window                                   | M/s- SHATABDI SAFTY GLASS VADODARA              |                     |
| 14.  | Lavatory/hopper Window                             | M/s- SHATABDI SAFTY GLASS VADODARA              |                     |
| 15.  | Roof Ceiling                                       | M/s-MSL (MOBILITY SOLUTION LTD.) MOHALI         |                     |
| 16.  | Door way /gang way ceiling                         | M/s- GANDHI SAFE & ALLIED INDUS. JALANDHAR      |                     |
| 17.  | Supply Air Duct                                    | M/S- HANSPAL TRADERS, KXH                       |                     |
| 18.  | Partition panel                                    | M/s-RAIL TECH KXH                               |                     |
| 19.  | Partition pillar                                   | M/s- NAGINA ENGG. WIORKS, KXH                   |                     |
| 20.  | Side Wall panel                                    | M/S-ALEX OVER SEAS PVT LTD KXH                  |                     |
| 21.  | AC Trough                                          | M/S-MEENA FIBER GLASS INDUS PUDUCHERY           |                     |
| 22.  | Body Side Doors                                    | M/s- JVR INDS, LUDHIYANA                        |                     |
| 23.  | Compartment Door (PPE)                             | M/S- HANSPAL TRADERS, KXH                       |                     |
| 24.  | Compartment Door (NPPE)                            | M/S- HANSPAL TRADERS, KXH                       |                     |
| 25.  | Vestibule Door(PPE)                                | M/S- HANSPAL TRADERS, KXH                       |                     |
| 26.  | Vestibule Door(NPPE)                               | M/S- HANSPAL TRADERS, KXH                       |                     |
| 27.  | Bio Tank                                           | M/S- OMAX AUTO GURGAON                          |                     |
| 28.  | Auxiliary Water Tank                               | M/S- MANOJ ENT. MOHALI                          |                     |
| 29.  | Under Slung Water Tank ( 2X685L)                   | M/S- AMIT ENG. MOHALI                           |                     |
| 30.  | Under Slung Water Tank (1x450 L)                   | M/s-RAIL FAB KXH                                |                     |
| 31.  | Health Faucet                                      | M/S- HINDUSTAN FIBRE & GLASS LTD. VADODARA      |                     |
| 32.  | Lotah Filler Tap                                   | M/S- HINDUSTAN FIBRE & GLASS LTD. VADODARA      |                     |
| 33.  | Bib cock                                           | M/s- JAQUAR PVT.LTD.ALWAR                       |                     |
| 34.  | Lavatory Modules 1,2                               | M/S- HINDUSTAN FIBRE & GLASS LTD. VADODARA      |                     |
| 35.  | Lavatory Modules 3,4                               | M/S- CMT MECHANISED SYSTEM PVT.LTD.,VADODARA    |                     |
| 36.  | Lavatory Doors                                     | M/S- HINDUSTAN FIBRE & GLASS LTD. VADODARA      |                     |
| 37.  | Fire Extinguisher                                  | M/s-SAFETY PLUS                                 | PPE-6062 ,NPPE-6064 |
| 38.  | Automatic smoke & heat Detection with alarm System | M/s-SANROK ENTERPRISES                          |                     |
| 39.  | Seat & Berth                                       | M/S- ORIENTAL VENEER PRODUCTS, MUMBAI           |                     |
| 40.  | Light Luggage Rack                                 | M/S- LUCKY ENTERPRISES, GURUGAON                |                     |
| 41.  | Snack Table                                        | M/S- INTERNATIONAL TRACTORS LTD. JALNDHAR       |                     |
| 42.  | RFID                                               | M/s-TECH SOLUTION GURGAON                       | Sr.-104288-104287   |

SSE/QC/MCF/RBL

गुणवत्ता विभाग  
रेडिओका, रायबरेली (लालगंज)





# Modern Coach Factory Raebareli

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आधुनिक रेल डिब्बा कारखाना, रायबरेली

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|-------------|----------------|---|---|-----------|---|---|---|---|---|---|-----------|---|------------------|---|---|---|---------|----------|---|---|---|
| RLY         | C              | R | - | Coach No. | 1 | 9 | 7 | 0 | 8 | 0 | /         | C | DATE OF DISPATCH | 1 | 4 | - | 1       | 0        | - | 1 | 9 |
| DISPATCH TO | SSE/STOCK/CSTM |   |   | Type      | L | W | A | C | C | N | Shell No. | 9 | 3                | 0 | 7 | 5 | FUR.NO. | L3T-1291 |   |   |   |

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:

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 qualityrcfbl@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<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<br>वरिष्ठ गुणवत्ता विभाग<br>रेडि०का०, रायबरेली (लालगंज) | SME/QC/MCF/RBL<br>वरिष्ठ यांत्रिक अभियन्ता/गुणवत्ता<br>Senior Mechanical Engineer/Quality<br>आधुनिक रेल डिब्बा कारखाना, रायबरेली<br>Modern Coach Factory Raebareli | Dy.CQM/MCF/RBL<br>उप मुख्य गुणवत्ता प्रबन्धक/शेल<br>Dy. Chief Quality Manager/Shell<br>आधुनिक रेल डिब्बा कारखाना, रायबरेली<br>Modern Coach Factory, Raebareli |



3T-1291



Modern Coach Factory Raebareli  
आधुनिक रेल डिब्बा कारखाना, रायबरेली

DOC NO.: MCF/RBL/QEF/8001

REV NO: 00

DATE:18.01.2017

PAGE 1 OF 5

**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   | 197080/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 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                                                                                                                                                      | 19.48 Cub mtr/min  |                  | OK       |
| 3.2        | Return Air                                                                                                                                                     | 69.51 Cub mtr/min  |                  | OK       |
| 3.3        | Exhaust Air                                                                                                                                                    | 6.60 Cub mtr/min   |                  | OK       |
| 3.4        | Conditioned Air                                                                                                                                                | 161.75 Cub mtr/min |                  | OK       |
| 4.0        | PRE COOLING TEST: Max 01 hr.<br>Time taken to pre cool from 45 deg centigrade to 24/22 deg C during OFF LOAD condition<br><br>PP Side :20.1°C NPP Side :21.8°C |                    |                  | OK       |
| 5.0        | PULL DOWN TEST: Max 02 hrs.<br>Time taken to pull down from 45 deg C to 24/22 deg C during FULL LOAD condition.<br><br>Not done.                               |                    |                  | ----     |

Senior Section Engineer  
Quality control / Electrical  
Modern Coach Factory Raebareli



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आधुनिक रेल डिब्बा कारखाना, रायबरेली

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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 :                                 |         |
| 16.1  | THERMOSTAT :                               | OK      |
| 16.2  | ROTARY 07 SET POINTS (NORMAL CONDITION)    | OK      |
| 16.3  | MID SET POINTS (SENSORS FAILED CONDITIONS) | OK      |
| 16.4  | HYGROSTAT                                  | OK      |
| 16.5  | CONTROL CIRCUIT                            | OK      |
| 16.6  | POWER CIRCUIT                              | OK      |
| 17.0  | REFRIGERANT USED R 407C                    | OK      |

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| Sr no | Description                                                                                                                                                                                                        | Drg/Spec no.                                        | Quantity per Coach |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------------|
| 01.   | Roof mounted AC package unit for LHB AC coaches.<br>Make : <b>AMIT ENGG.</b><br>Sr no of RMPU (NPP side): <b>3732 G</b><br>Sr no of RMPU (PP side) : <b>3720 G</b><br>Sr no of Microprocessor: <b>AE 19.09.836</b> | As per<br>rdso/pe/spes/ac/0061/rev-1/2005           | <b>02</b>          |
| 02.   | Switch board cabinet<br>Make : <b>AMIT ENGG.</b><br>Sr no : <b>AE/SB-926</b>                                                                                                                                       | RDSO/PE/SPEC/AC/0184-2015 REV-0                     | <b>01</b>          |
| 03.   | Pump equipment with PLC controller & pump box Make : <b>DR AUTO</b><br>Sr no PA : <b>2019/09/0034</b><br>Sr no.1 : <b>19090187</b><br>Sr no.2 : <b>19090235</b><br>Sr no.CPA : <b>2019/07/0034-DR AUTO</b>         | As per spec EDTS<br>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<br>CORR.-1&2                        | <b>02</b>          |
| 05.   | Door way/Gangway Light<br>Make : <b>RT VISION</b>                                                                                                                                                                  | RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-N            | <b>07</b>          |
| 06.   | Provision of Passenger area light(Cabin)<br>Make: <b>DR AUTO</b>                                                                                                                                                   | As per<br>RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-L  | <b>09</b>          |
| 07.   | Corridor Light with Night light<br>Make: <b>RT VISION</b>                                                                                                                                                          | RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-M            | <b>09</b>          |
| 08.   | Emergency light system for EOG type coaches (AEL) Make : <b>VGS</b>                                                                                                                                                | EDTS 151,Rev -c Am-1 & 2                            | <b>04</b>          |
| 09.   | Lavatory light fitting assly<br>Make : <b>K.LITE</b>                                                                                                                                                               | LW 76001,Alt nil                                    | <b>04</b>          |
| 10.   | Toilet indication (WC) light,<br>Make: <b>DR AUTO</b>                                                                                                                                                              | As per<br>RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-H1 | <b>04</b>          |
| 11.   | Passenger alarm coach indication light<br>Make : <b>KAVERI</b>                                                                                                                                                     | LW 76005,Alt-e                                      | <b>02</b>          |

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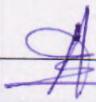
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| Sr no | Description                                                                                                                                                                                  | Drg/Spec no.                                      | Quantity per Coach |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------|
| 12.   | Razor socket for WC 110/240V.<br>Make : <b>SSK</b>                                                                                                                                           | EDML 047,Rev nil                                  | <b>04</b>          |
| 13.   | Terminal strip<br>Make : <b>WAGO</b>                                                                                                                                                         | EDML 034,Rev-a                                    | <b>01 SET</b>      |
| 14.   | Terminal connector<br>Make : <b>WAGO</b>                                                                                                                                                     | EDML 037,Rev`a`                                   | <b>1 SET</b>       |
| 15.   | Provision of 04 switch with socket combined 5PIN (06A, 250V AC) along with 1A glass fuse fitted powder coated steel plate & cover frame Make : <b>SSK</b>                                    | LW 74202 EDML 0,64,Rev-A,AM-1 Item 07.            | <b>18</b>          |
| 16.   | Provision of switch socket combined 5PIN (06A, 250V AC) along with 1A glass fuse fitted powder coated steel plate & cover frame Make : <b>SSK</b>                                            | EDML 0,64,Rev-B, Item -16.                        | <b>54</b>          |
| 17.   | PA system for LHB coaches<br>Make : <b>AHUJA</b>                                                                                                                                             | EDTS 173,Rev- a Am-1,2&3                          | <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>06/19</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>RADIANT</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.   | Reading light for longitudinal berth ( LHS)<br>Make: <b>DR AUTO</b>                                                                                                                          | As per RDSO/PE/SPEC/TL/009 1-2016,REV-01, TYPE-F1 | <b>9</b>           |

  
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| Sr no                                      | Description                                                                             | Drg/Spec no.                                                   | Quantity per Coach |
|--------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------|
| 23.                                        | Reading light for upper berth<br>Make: <b>DR AUTO</b>                                   | As per<br>RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-F2            | <b>27</b>          |
| 24.                                        | Reading light for transverse berth (RHS)<br>Make: <b>DR AUTO</b>                        | As per<br>RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-F3            | <b>18</b>          |
| 25.                                        | Reading light for berth transverse ( LHS)<br>Make: <b>DR AUTO</b>                       | As per<br>RDSO/PE/SPEC/TL/0091-2016,REV-01, TYPE-F4            | <b>18</b>          |
| 26.                                        | Emergency battery charger<br>Make : <b>M.B &amp; COMPANY</b><br>Sr no: <b>201906143</b> | EDTS 163,Rev `c` corg.-2&3                                     | <b>01</b>          |
| 27.                                        | Regulated battery charger<br>Make : <b>EEC</b><br>Sr no: <b>11180038</b>                | RDSO/PE/SPEC/AC/0183 (REV -0 )                                 | <b>01</b>          |
| 28.                                        | Provision of 5KVA TFR<br>Make : <b>VIMAL</b><br>SL.no : <b>VTC-3089 LHB-1005</b>        | As Per EDTS-366,REV-NIL & CC-71510                             | <b>01</b>          |
| 29.                                        | Provision of capacitor Bank<br>Make : <b>KONTACT</b><br>SL.no : <b>KT-939</b>           | As per EDML-130 Rev-1,Corr-1                                   | <b>01</b>          |
| 30.                                        | 60KVA transformer<br>Make : <b>VIMAL</b><br>Sr no : <b>VTC-R- 3089 LHB-1863</b>         | As per<br>rdso/pe/spec/ac/0080/rev-0 (2007)/Am-1&2/Corr. 1,2&3 | <b>01</b>          |
| 31.                                        | Inter Vehicle (ZS)coupler<br>Make: <b>PRIME ELECT.</b>                                  | As per RDSO PE SPEC-0177-2013 REV-0                            | <b>01 set</b>      |
| 32.                                        | Feeder junction boxes.<br>Make : <b>INDORAIL</b>                                        | EDTS-328 REV-C                                                 | <b>01 set</b>      |
| 33.                                        | Wheel set earthling equipment.<br>Make : <b>DARSHAN ENTERPRISES</b>                     | EDTS101,REV-C,AM-1                                             | <b>02 sets</b>     |
| 34.                                        | Wheel Slide Protection System (WSP)<br>Make : <b>FAIVELEY</b> Sr no : <b>48/18/2005</b> | M/s : <b>FAIVELEY</b>                                          | <b>01 set</b>      |
| 35.                                        | PANTRY EQUIPMENTS :<br>Hot Case & Bottle cooler cum deep freezer<br>Make : <b>NIL</b>   | As per EDTS -139, Rev- E ,Sec II.                              | <b>00</b>          |
|                                            |                                                                                         |                                                                |                    |
| <b>SSE/EL/QC</b><br>वरिष्ठ अनुभाग अभियन्ता |                                                                                         | <b>AWM(ELECT.)/MCF/RBL</b><br><b>SEE(P)/MCF/RBL</b>            |                    |

गुणवत्ता नियंत्रण  
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