

HUMSAFAR COACHES



**MANUFACTURED BY:
RAIL COACH FACTORY, KAPURTHALA**

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A. Type of coaches in Humsafar Rake:

Humsafar consists of following two types of coaches:

- LHB AC 3 Tier Coaches
- Power Cars

B. Information about Layouts & General Installation:

#	Coach Type	Layout Drg.	General Installation Drg.
1	LWACCNH LHB AC 3 Tier Coaches	LE90009	LE90037
2	LWLRRM Power Car	1 11012.0.01.000.001	LP90012

C. MAIN FEATURES OF HUMSAFAR COACH:

1. Existing LHB AC 3-tier coaches shall be used
2. GPS based Passenger information system
3. Passenger Announcement system
4. CCTV system
5. Mobile and Laptop charging points
6. Integrated Braille display
7. Vinyl wrapping on the exterior with anti graffiti measures
8. Fire and Smoke detection system
9. Fire detection & Suppression system in Power car
10. Odour Control Dispensers in the Aisle
11. New design curtain for aisle and windows

D. Following are the details of main features of Humsafar coaches:

D.1 Fire and smoke detection system

The complete rake has been provided with fire and smoke detection system. The system has smoke sampling points provided at various locations in the compartment area (8 nos), doorway area (2 nos) and electrical panel area (1 no.) Heat activated sensors are provided in all the lavatories. On sensing of smoke/heat, depending upon the level of smoke, the system activates audio visual alarm and passenger announcement activation. After certain level/time automatic application of brake is initiated. A central monitoring system (CMS) is provided in each coach and a central monitoring unit (CMU) is mounted inside crew room of power car. The CMU displays the status of each coach of the rake.



D.2 Fire suppression system in power cars

All the power cars in the rake have been provided with smoke detection and fire suppression system. The system consists of one number high pressure Nitrogen cylinder and 2 nos. water cylinders which are connected with 10 nos. of nozzles provided inside the generator room to disperse water mist. The number of cylinders of water and nitrogen may vary depending on the firm's design. Heat and smoke detectors are installed above the generators. The detector control panel is provided inside the crew room. In case of smoke/fire, the alarm/buzzer is sounded and on detecting the fire, crew members are needed to operate a manually operated trigger valve for initiating suppression. Operating of trigger valve releases the high pressure nitrogen with water and water mist is discharged in engine compartment.



D.3 Provision of CCTV Cameras

06 nos. of high resolution cameras (2 in passenger area, 2 nos. in each doorway area) have been provided. Cameras have night vision capability and facial recognition in low light condition. A network video recorder (NVR) has been provided in each coach with 2 TB hard disc capacity. The system has 30 days loop recording provision and works 24 hours per day. Additional 32GB SD card has also been provided to work as stand by to hard disk. In case of failure of camera/hard disc, indication is shown on NVR. Real time tagging of videos with speed, location and time through GPS antenna can also be done.



D.4 Passenger Information System (PIS) system

PIS system comprising of Master Board Unit, GPS receiver and LCD screen display panel above the passenger compartment doors has been provided in each coach to display the Welcome/farewell messages and information regarding current time, current station, next stations, remaining distance and late running status in Hindi, English and Regional Language. The safety slogans are also displayed intermittently.



D.5 Public Address System

PA System comprising PA Amplifier and speakers in each coach has been provided which are connected to the main amplifier with the help of PA Couplers for interconnection of the coaches in the rake along with a speech unit which is used for Public address as per the requirement.

D.6 Integrated Braille display

Common stickers for both - visually impaired and normal person have been provided as per ICF specification.



D.7 Vinyl wrapping on the exterior

Vinyl wrapping with aesthetically pleasing design has been provided on the exterior of the coach.



D.8 New design curtain for aisle and windows

New designed aesthetically pleasing curtain have been provided in Humsafar coaches

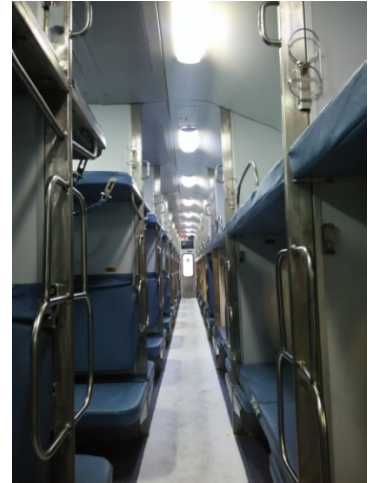


D.9 Provision of additional laptop/mobile charging sockets

Earlier 110V AC mobile/ laptop charging points were not provided, causing great inconvenience to passengers. Accordingly, wiring schemes have been revised for provision of mobile/laptop charging sockets.

D.10 Odour Control Dispensers in the Aisle

Odour control dispensers have been provided in the aisle.



E. List of specifications of new features:

#	PL No.	Item	Spec/Drawing No.
1.	33640932	GPS based Passenger information system	<ul style="list-style-type: none">• RDSO/PE/SPEC/AC/0087-2008(REV-1)•
2.	33681879	CCTV system	<ul style="list-style-type: none">• ICF MD-SPEC-269 REV-05
3.	77070057	Fleet Graphic Film (Vinyl wrapping) on the exterior with anti graffiti measures	<ul style="list-style-type: none">• RDSO/2010/CG-08
4.	33691411	Fire and Smoke detection system	<ul style="list-style-type: none">• RDSO/2008/CG-04 REV.03
5.	33691400	Fire detection & Suppression system in Power car	<ul style="list-style-type: none">• RDSO/2013/CG-06 (JUNE-2014)
6.	33680115	Odour Control Dispensers in the Aisle	<ul style="list-style-type: none">• RDSO/2008/CG-11

F. Maintenance Manuals of following items are available:

1. Fire and Smoke detection system
2. Fire detection & Suppression system in Power car
3. CCTV system

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