

Post COVID Coaches and In House Innovations in Railways

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The Indian Railways has created 1st Post COVID coaches, which have been designed at **Railway Coach Factory at Kapurthala**. Further, the Railway Board has decided to implement 20 innovations by its employees to make train journeys safer and improve passenger comfort.

Post COVID Coaches

Of the 2 coaches, one is air-conditioned and other non-air conditioned. The **use of hands to navigate washrooms and other parts has been brought down to a minimum**, making them almost hands-free. The coaches have **foot-operated** water tap and soap dispensers, lavatory doors, flush valve and latches. The Railways has also installed **copper-coated handrails and latches**. Copper degrades the virus landed on it within a few hours. Copper has antimicrobial properties. When the virus lands on copper, ion blasts pathogens and destroys the DNA and RNA inside the virus.

The coaches also have the **provision of plasma air equipment in the AC duct that will sterilise the coaches** using ionised air to make it COVID-19 free. A special **nanstructured titanium dioxide coating** has also been applied on washbasins, lavatory, seats and berths, snack table, glass window, floor.

In House Innovations

While most of the 20 innovations are aimed at technical improvements to boost safety, some of the innovations are also directed at passenger comfort. An order has been issued to all zonal general managers and production units to gear up for the implementation of these ideas.

Ultrasonic Detection of Rails

The North Central Railway has developed a vehicular system for ultrasonic flaw detection of rails, which is currently done manually.

The Malda division of Eastern Railway has used pyrometers to monitor speed and temperature of tracks.

The carriage and wagon department of Allahabad division of North Central Railway has developed a detector for hot axle boxes in running trains much before a possible derailment due to seizure.

Natural Water Coolers

The Western Railway has developed these, with zero electric consumption and a lifespan of ten years. The system works on principle of heat transfer where water is passed through copper coils which are covered with cooling fabric active through a water dripping system.

A bell system, developed by Allahabad division, alerts passengers at platforms that the train is ready to depart within two minutes and they should occupy their seats. The NCR has developed a **system for real-time monitoring** inside trains and has installed it in all 18 coaches of Humsafar trains.