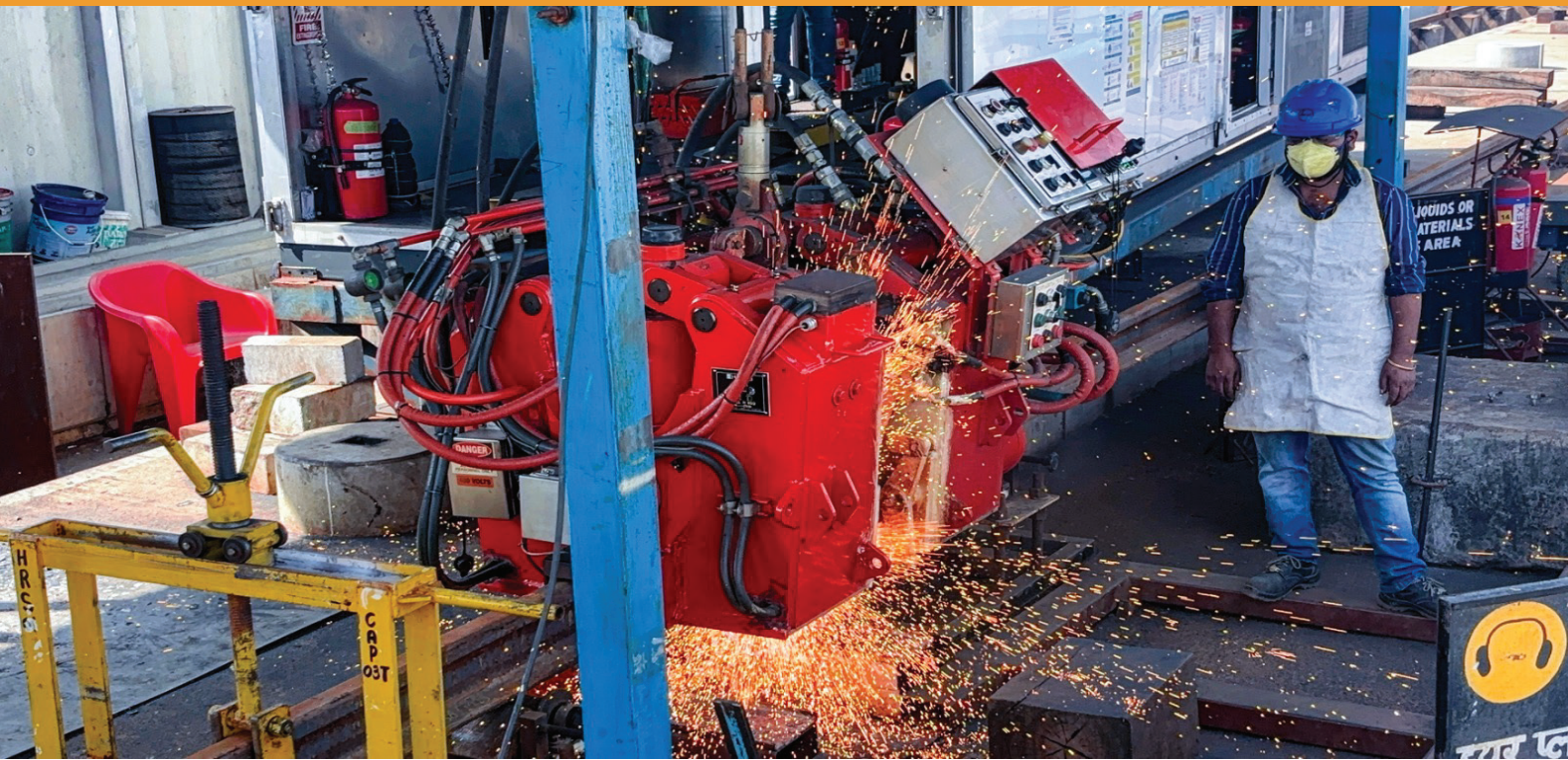


JAPANESE J-SLAB TRACK MACHINERY

for Mumbai Ahmedabad Bullet Train Project



The Mumbai Ahmedabad High-Speed Rail Corridor adopts Japanese J-slab ballastless track system, drawing inspiration from the Shinkansen track system. This track system comprises four primary components: the RC Track Bed, Cement Asphalt Mortar, Pre-cast Track Slab, and Rails with fasteners. The installation process is fully mechanised, employing state-of-the-art machinery meticulously designed and manufactured in accordance with Japanese construction practices. These machines include the Flash Butt Welding Machine (FBWM), Rail Feeder Car (RFC), Track Slab Laying Car (SLC), and Cement Asphalt Mortar Injection Car.



FLASH BUTT WELDING MACHINE (FBWM)

The 25 m long, 60 kg rails are welded using the Flash Butt Welding Machine (FBWM) to form 200 m long panels at the Track Construction Base (TCB) over the viaduct. Each welding is subsequently followed by non-destructive testing (NDT), multi-layered grinding, and rail profile finishing procedures before being laid on the track bed.

RAIL FEEDER CAR (RFC)

The Rail Feeder Car (RFC) is utilised to lay 200 m long rail panels over the RC track bed. The RFC propels the rail pair across the RC track bed, initially laying a temporary track on the RC track bed. Each trip of Rail Feeder Car carries 10 x 200 m long rail panels, thereby laying 1 km of temporary track in a single trip. This temporary track serves as track for various track laying machinery, later, same rails are subsequently fitted on track slab with rail fasteners, forming the J-Slab track system.





TRACK SLAB LAYING CAR (SLC)

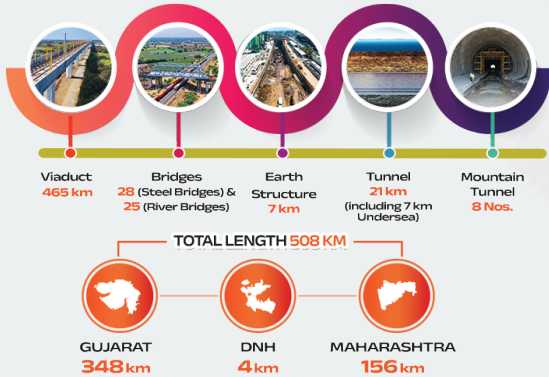
Precast track slabs are lifted onto the viaduct, loaded onto a specially designed slab laying car (SLC), and transported to the track slab laying location. Utilising the SLC, which can simultaneously pick up five slabs at a time, track slabs are positioned on the RC track bed. The track slab is subsequently adjusted to fill Cement Asphalt Mortar (CAM) between RC Track bed and Track slab.

CEMENT ASPHALT MORTAR INJECTION CAR (CAM CAR)

After placement of track slabs at proper place on the RC track Bed, CAM car runs on the other side track (UP or Down). This CAM car mixes the CAM ingredients in designed proportion and thereafter, CAM mix is injected under the slab (in special bags) to maintain the required line and level of the final track.



MUMBAI-AHMEDABAD BULLET TRAIN PROJECT



12 Stations
(8 Gujarat, 4 Maharashtra)



3 Rolling Stock Depots



J-Slab Track System



8 Maintenance Centres



High Speed Rail Multi Modal Hub, Sabarmati



HSR Training Institute in Vadodara



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