

CASE STUDY



WATERLOO INTERNATIONAL TERMINAL - BEARING REFURBISHMENT & REPLACEMENT



Job Brief

Scope: Design and installation of temporary works and bridge jacking. Bearing removal and refurbishment. Design, supply and installation of 10 no. Pot and 3 no. F-Type bearings. Removal of surplus bearings. Supply and installation of ES seal expansion joints.

Project Team

Client: Wessex Capacity Alliance (Network Rail / South West Trains)
Main Contractor: Skanska
Sub Contractor: Ekspan
Start Date: August 2016
Completion Date: December 2016

Background Information

London Waterloo, the UK's busiest rail station and one of the country's most used, facilitates more than 230 million rail passenger journeys every year. This is an increase of over 100 per cent in the last 20 years and is predicted to double again in the next 25 years. This substantial growth, more than the current infrastructure was ever designed for, has resulted in the implementation of a major upgrade to Waterloo station, to boost passenger and train capacity.

Network Rail in partnership with South West Trains, awarded a Skanska-led consortium, a £400m contract to deliver an essential programme of works from 2016 to 2018. These major improvements would provide extended platforms for longer trains, bring unused platforms back into operation all within a more spacious, modern and well-facilitated station environment.



Existing bearing showing excessive corrosion as a result of water leakage from the deck

Ekspan's Workscope

Ekspan were contracted by Skanska to carry out all bearing and joint removal, installation and associated refurbishment works. A full survey, with photographs, was undertaken of each bearing on the D and E bridge decks of Waterloo International Terminal. All findings associated with identification, overall dimensions, bearing condition, bearing plinths, soffit and jacking points were recorded. This survey together with results from a prior inspection verified extensive surface corrosion caused by the ingress of water through the decks' movement joints. Damage to the rubber around the bearings and peeling of paint work was also visible.

Ekspan's programme of works were carried out sequentially following installation of falsework and hydro demolition of the concrete deck edge slabs and bearing shelf at specified locations. The jacking system and temporary works designed and installed by Ekspan, allowed accurate monitoring of the bridge deck throughout the works. The final phase of works following bearing installation included installation of the ES seal expansion joints.

Strategic planning and effective communication were key to successfully completing this project within the time constraints and to budget - essential given the added complexity of co-ordinating these works with other contractors' programme schedules.



Bearing shelf - localised jacking prior to bearing removal



Free bearing installed