



## HS2 Euston Traction Substation (UK) Sheet Waterproofing

<b>Country</b>	United Kingdom
<b>Type</b>	Railway
<b>Client</b>	High Speed Two (HS2) Limited, Transport of London (TfL)
<b>Main Contractor</b>	Mace Dragados Joint Venture, Joseph Gallagher Ltd.
<b>Execution of the work</b>	Renesco UK Ltd.
<b>Designer</b>	Arup, WSP, Mott McDonald
<b>Construction Period</b>	2021 - 2022

## Project Description

High Speed 2 (HS2) is the new High Speed Rail Network running between London in the South and Manchester and Leeds to the North. Phase-1 involves the route between London and Birmingham with approximately 200km of new high-speed rail being laid, just under half is located under west London, between the HS2 southern terminus at Euston Station and a portal at West Ruislip, just inside the orbital M25 highway. The two main works civils lots start from Euston Station in London including the Traction Substation construction (TSS). The drive between Old Oak Common Station and Euston Station presents the most consistent geological profile with the entire route lying within London Clay. These are planned to be SCL (sprayed concrete lining) construction, with a waterproofing sheet membrane and a secondary cast-in-place concrete lining.

## Scope of Service

Supply, transport, and installation of a loose laid waterproofing sheet membrane system under pressurized water conditions for the TfL Traction Substation, shafts, adits, head walls, combined tunnels, and connections. Primary lining with shotcrete, sheet waterproofing according to BTS 3rd edition Clause 312 (British standard), full-round (360°) sealing, secondary lining via cast-in-place concrete and the option for remedial grouting/ injection works.

- Sheet membrane, PVC-P, 2.1mm
- 1'000g/sqm PP protection geotextile
- Protection sheet membrane, 1.5 & 2.0mm
- Water barriers, 400/30/6, 600/30/6 PVC-P
- Termination at pre-cast-concrete-elements with adhesive strips/ tapes
- Injection system, active control sockets, injection hoses, hydrophilic swelling profiles
- BA-Anchors
- Movement Joints
- Pipe penetrations
- Contact Grouting



1. Sheet waterproofing/ invert/ tunnel
2. Sheet waterproofing/ temporary shaft
3. Crown waterproofing/ reinforcement/ shutter/ tunnel