



Northern Line Extension (UK) Sheet Waterproofing

Country	United Kingdom
Type	Metro Line
Client	London Underground
Main Contractor	Ferrovial Agroman/ Laing O'Rourke (FLO)
Execution of the work	Renesco a.s.
Designer	Mott MacDonald, OTB
Construction Period	2017 – 2018

Project Description

3.2km twin-tube extension of the Northern Line from Kennington station in south London. The project includes the construction of two new stations, Nine Elms and Battersea, with two additional ventilation shafts, 6kilometers of new tunnel with an internal diameter of 5.1 meters.

Scope of Service

Installation of waterproofing membrane system under pressurized water conditions in tunnels, shafts and cross-passages, sheet waterproofing 2mm PVC-P acc. to BS 8102 (British standard), 1200g/sqm polypropylene geotextile, full-round (360°) sealing, protection sheet membrane, PVC-P water barriers, BA anchors and grouting devices.

- Sheet waterproofing, crown & invert
- Fibre-reinforced shotcrete
- 1200g/sqm PP protection geotextile
- PVC-P water barriers, 500/30/6
- Contact grouting injection tubes
- Termination at TBM segments
- Headwall connection
- Connection to SGI ring



1. Sheet waterproofing/ crown
2. 360° sealing including inner concrete lining
3. London Underground