



Tunnel Grouft (LUX) Sheet Waterproofing

Country	Luxembourg
Type	Road Tunnel
Client	Ministère des Travaux Publics/ Administration des Ponts et Chaussées
Main Contractor	Wyss & Freytag Ingenieurbau AG, Max Bögl, Félix Giorgetti, Galère S.A, Tralux,
Designer	Lombardi Engineering, Luxconsult, TR.Engineering
Execution of the work	Iraco / Renesco a.s.
Construction Period	2007-2008

Project Description

The 2.966m, twin-tube, two-lane motorway road tunnel is the longest structure on the Route du Nord, which links the northern economic regions of the Grand Duchy of Luxemburg with the capital. The "Route d'Echternach-Contournement Mersch" section is 14.7km long, with 7.5km of the road underground through 3 tunnels, and a further 1.4km over bridges.

Scope of Service

The construction is executed by Drill and blast method in combination with tunnel excavator and Sprayed concrete lining (SCL) method.

- 1 double-lane tunnel, 3km, excavated cross-section: 96m²;
- 1 triple-lane tunnel, 2.9km, excavated cross-section: 174m²;
- 1 cavern with ventilation shaft;
- 10 cross-passages, of which 4 are accessible by vehicles;
- 1 rescue tunnel, length: 40m
- Installation of PVC-P waterproofing sheet membrane, 2mm and 3mm thick according to ZTV-ING (German standard) including compartments (water barriers) and a pre-injection system
- Drained (full-round-seal) and undrained section (umbrella seal), separated by a two-component flexible waterproofing tape/strip, suitable for gluing with epoxy adhesive and for welding with the PVC-P waterproofing membrane
- Contact grouting
- Injection works/ compartment injection with a two-component flexible, polymer modified injection suspension on micro-cement basis



1. Sheet waterproofing application, roof section
2. Sheet waterproofing application, invert section
3. Cavern waterproofing