



Semmering Base Tunnel 3.1 (AT) Sheet waterproofing

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| Country | Austria |
| Type | High Speed Rail |
| Client | ÖBB Infrastruktur AG |
| Main Contractor | Marti GmbH/ Tunnel |
| Execution of the work | Renesco GmbH |
| Designer/ Engineering | PGST (iC Consulente, IGT-Geotechnik und Tunnelbau) |
| Construction Period | 2022-2025 |

Project Description

The project Semmering Basistunnel (SBTN), which is about 27.3 km, consists of a twin tube single-track tunnel between Gloggnitz and Mürzzuschlag. The project is divided into three construction lots: Lot SBT 1.1 (Tunnel Gloggnitz), Lot SBT 2.1 (Tunnel Froeschnitzgraben) and Lot SBT 3.1 (Tunnel Grautschenhof). It is one of the most important infrastructure projects in the heart of Europe.

In the lot SBT 3.1, the tunnel advance works for both tunnel stretches are carried out through the two shafts Sommerau-1 and Sommerau-2 commencing from the shaft bottom area. The main construction units are:

- 2 x 100 m shafts with diameter of 8 and 14 m
- 2 x 7 km long (70 - 94 m²) single-track rail tunnel
- 14 cross connections (every 500 m)

Geology

The geological characterization of the project presents 28 rock types. These extend from loose rocks to solid rock types with weak zones. The rock types of the construction lot SBT 3.1 Tunnel Grautschenhof are composed of different rock types of the Semmering's Crystal-line and the permomesozoic units of the Central Alpine. Schist and phyllite are described as the significant units of the Semmering's Crystalline with an occurrence of approx. 45%. In the disturbance areas 20% gneiss and 10-15% limestone is to be expected.

Scope of Service

Supply & Apply of the waterproofing system:

- Sheet membranes, 2 and 3 mm, PVC-P, drained system (umbrella seal) incl. geotextile and drainage layer
- Adhesive tapes/ strips, protection side-wall strips, water barriers, water stops
- BA anchors membrane penetration devices, pipes penetrations, etc.
- Injection/ grouting hoses, devices, and services



1. Grouting works
2. Sheet membrane application
3. In-situ casted concrete inner liner