



Tunnel Solbakk (NO) Water & Frost Protection

Country	Norway
Type	Road Tunnel
Client	Statens Vegvesen Region Nord (Norwegian Road Adm.)
Main Contractor	Marti ÍAV Solbakk DA, Marti Contractors, Marti AS
Execution of the work	Renesco a.s.
Construction Period	2017/2018

Project Description

The E02 Solbakk project is the northern construction lot of the Ryfast project between Stavanger and Tau, which comprises a two-lane, twin-tube road tunnel including roadwork and sea filling. The main parts of the project consist of:

- 2 x 7'980m long (68m²) double lane road tunnel
- 16 cross connections (17-42m²)
- 2 caverns (up to 308m²)
- Technical niches, pump stations, sedimentation-bassin

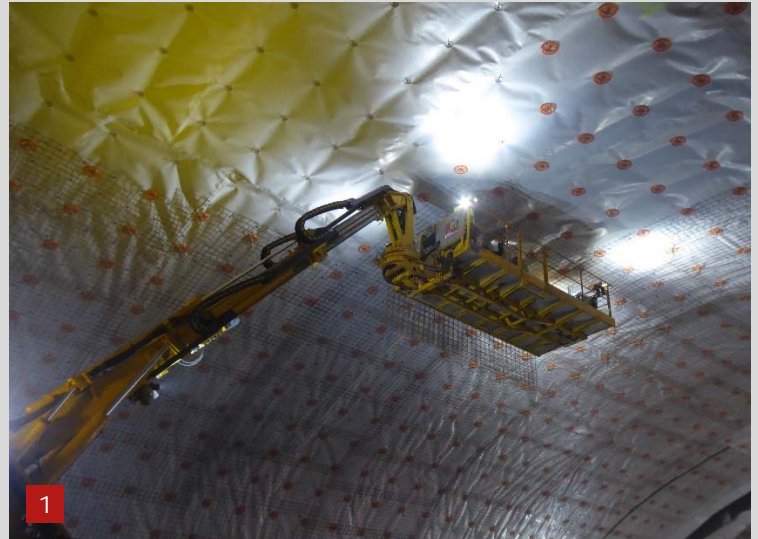
Underground excavation, rock support and grouting work:

- Excavation method: drill and blast
- Excavated length: 16'570m
- Grouting method: systematic probe drilling, Cementous pre-grouting, 4'300t of grout media
- Rock support: shotcrete, systematic rock bolts and spilling bolts, reinforced shotcrete arches
- Pre-casted concrete wall element lining
- Sea-fillings with blasted rock
- Roadworks: 17.4km
- Fresh water and drainage system
- Installation of cables pipes and cable bridges
- 2 x 250m long portals (cut & cover)
- Electrical work: Earthing system

Scope of Service

Water and frost protection work:

- LLDPE sheet waterproofing & shotcrete lining
- Drilling service for the rock bolts
- Rock bolts setting
- Fixation of reinforcement
- Sheet waterproofing of the portals



1. Fjellhaller/ cavern, 44 m circumference, water & frost protection
2. Installation of the water & frost protection, running tunnel
3. Bolting, stiffening and membrane installation