



## N2 Melide-Grancia Motorway Tunnel (CH) Waterproofing

<b>Country</b>	Switzerland
<b>Type</b>	Motorway Tunnel
<b>Client</b>	Federal roads office - ASTRA
<b>Main Contractor</b>	Pizzarotti SA
<b>Execution of the work</b>	Renesco AG
<b>Designer</b>	Consortium TiLume LDD Lombardi SA Ingegneri Consulenti, AFRY Svizzera SA, Pini Swiss Engineers SA
<b>Construction Period</b>	2021-2023

## Project Description

The Melide-Grancia tunnel, on the Lugano Sud-Mendrisio motorway, has 2 tubes with 2 lanes each. The length of each tube is 1,727m, the width is 15.5m. The project consists in the refurbishment of the tunnel.

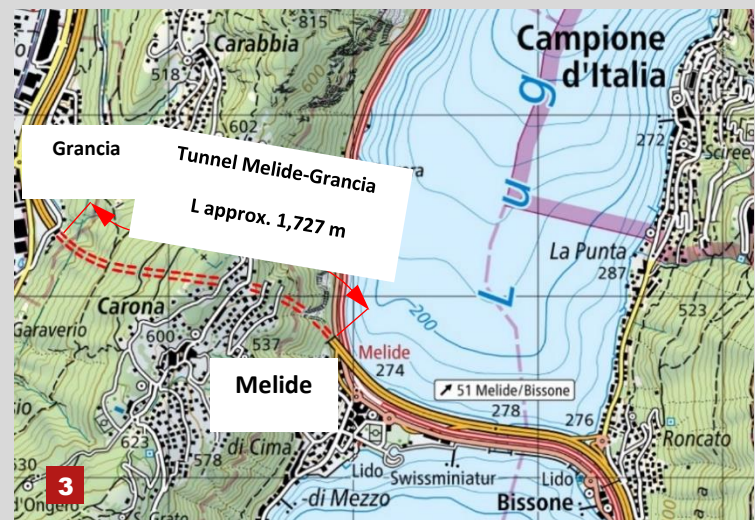
- On 55% of the tunnel length: installation of a drained waterproofing system; installation of a precast concrete lining and filling of the gap between the existing and the new concrete lining with cast in-situ concrete.
- On the remaining 45% of the tunnel length: installation of an electro welded stainless steel mesh.
- All necessary demolition/reconstruction works, construction of a radial drainage system and its connection to the drainage collector.

Works are performed on one tunnel tube at a time, only at night, so not to cause disruption of the traffic during the day.

## Scope of Service

Supply and installation of the drained waterproofing system (starting from the surface of the existing concrete lining):

- Synthetic drainage layer, dimpled, 1 m width, at the bottom periphery of the surface to be lined.
- Synthetic drainage layer, fire-retardant, 18 mm thickness, over the whole surface to be lined.
- PVC-P waterproofing layer, 2 mm thickness.
- PVC-P protection layer, 2 mm thickness.
- The total surface to be lined is 37,100 m<sup>2</sup>.



1. A section where the waterproofing system has been completed.
2. Installation of the drainage layer
3. Location of the tunnel.