



N16.14 Upn. Tavannes - Bözingenfeld (CH) Spray-applied Waterproofing

Country	Switzerland
Type	Motorway
Client	Federal roads office - ASTRA
Main Contractor	Marti Arc Jura SA
Execution of the work	Renesco AG
Designer	IUB Engineering AG
Construction Period	2019

Project Description

The pilot/ rehabilitation project N16 Tavannes – Bözingenfeld/ Taubenloch near the city of Biel serves for the extension of the existing tunnel to use two traffic lanes during daylight hours. Beside, FEDRO improves its research for innovative and alternative methods to rehabilitate tunnels.

One focus is set on an investigation program for the waterproofing system including application technology, functioning/operation, durability and cost evaluation.

The waterproofing system is a drained system/ umbrella seal incl. wall drainage, 50% of the tunnel is constructed with a spray-applied waterproofing system, 50% with a sheet waterproofing system.

Scope of Service

Spray-applied system: shotcrete incl. reinforcement (mesh), dimple sheet (stud height 8mm), 3cm thick shotcrete/ levelling layer with a grain size of 0/4mm, 3-5mm spray-applied waterproofing membrane, applied in two layers and inner lining (self-compacting concrete) without reinforcement.

Plastic sheet waterproofing system: shotcrete, dimple sheet (stud height 8mm), 2mm PVC-P sheet membrane and inner lining (self-compacting concrete) without reinforcement.



1. Application of the first layer of the spray-applied system
2. Application of the sheet waterproofing system
3. View on both waterproofing systems