

Bikoš tunnel (SK) Sheet Waterproofing

Country	Slovakia
Type	Motorway Tunnel
Client	Slovakian motorway company NDS
Main Contractor	TuCon as
Execution of the work	Renesco as
Designer/ Engineering	Basler & Hofmann
Construction Period	2021-2022

Project Description

The Rýchlostná cesta R4 is an expressway under construction in eastern Slovakia that will replace several sections of state roads. Larger cities along the expressway are Prešov and Košice. The R4 is part of the so-called Via Carpatia route.

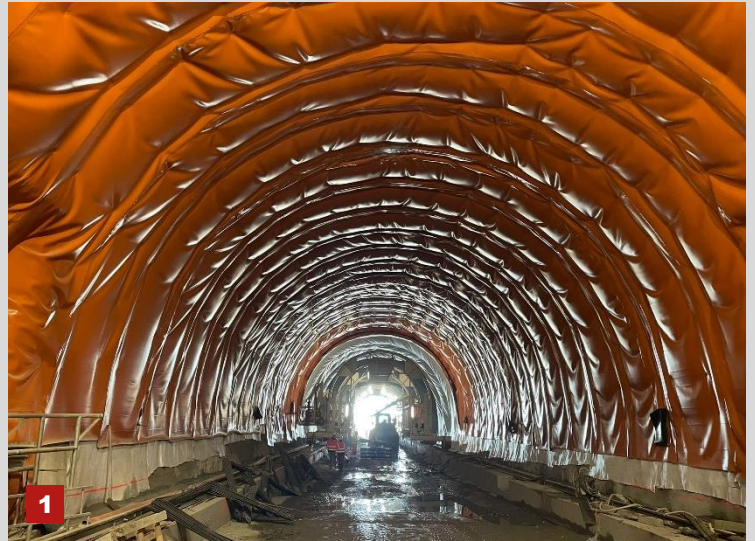
The Bikoš tunnel is one of two tunnels planned on the northern bypass road from Prešov as part of the R4 dual carriageway. The tunnel will be about 1.15 kilometers long and pass through the hill of the same name in the municipality of Veľký Šariš. The two-tube tunnel will consist of a mined section including 3 cross passages between the east and west tubes, two widening areas (breakdown bays) in the middle of each tunnel as well as the 4 cut-and-cover sections at the portals.

Excavation has been undertaken using NATM, partly divided into calotte, bench, and invert. Both drill and blast, and excavators have been used to mine through the variable sandstone and clay geology. Pipe umbrella was used for the four portal structures. Depending on the excavation classes, the excavation cross-section of the main pipes amounts to approx. 80-90m², of the widening areas 133m².

Scope of Service

Supply & installation of sheet waterproofing membranes, as umbrella sealing/ drained tunnel structure.

- 50.000m² PVC-P, 2.1mm
- 500g/m² polypropylene (PP) geotextile
- Protection stripes, 50cm at construction joints
- Portal: Sheet waterproofing/ portal area, PVC-P, 3.1mm
- Portal: 35mm thick, protection & drainage sheet geo-composite laminated with geotextile



1. Sheet waterproofing membrane/ crown
2. Portal area
3. Automatically gantry for membrane application