



SIKA AT WORK

D1 HIGHWAY TUNNEL BETWEEN DUBNA SKALA - VISNOVE, SLOVAKIA

CONCRETE: Sika® ViscoCrete®, Sigunit®

BUILDING TRUST



D1 HIGHWAY TUNNEL BETWEEN DUBNA SKALA – VISNOVE

PROJECT DESCRIPTION

The D1 is a highway located in Slovakia which is a part of the transportation corridor nr. 5 belonging to the TEN (trans-European Network). The corridor 5 connects Ukraina to the Mediterranean sea arriving in Venice, in Rjeka through Zagreb and in Ploce through Sarajevo. The Slovakian part of the corridor 5 connects Ukraina to Vienna through Bratislava.

The city of Zilina, in the north part of central Slovakia is the place where north-south corridor is meeting the east west one, here the Tatra Mounts are a natural obstacle for the construction of the highway. For the connection to Zilina between Dubna Skala and Visnove the project is developed through a double tunnel of 7.5 km (total 15 km excavation) and includes as well 2.5 km of bridges.

The tunnel is excavated in traditional system on 10 meter wide sections with double lining in shotcrete (class J2 and J3) and cast in situ secondary lining. The total amount of shotcrete for the jobsite is 200,000 m³ while cast in situ secondary lining is 170,000 m³ of concrete.

PROJECT REQUIREMENT

Due to geological condition – shotcrete is applied with both the strengths development classes J2 and J3, while for secondary lining concrete has been designed to reach 12 Mpa in 8 hours after casting.

PROJECT SOLUTIONS

For concrete and shotcrete production two batching plants are installed at the jobsite near the adits in Visnove and in Dubna Skala. Long open time (120 minutes) for shotcrete mixes was provided through the supply of Sika® ViscoCrete® SC 305 which is a PCE HRWR specially designed for shotcrete mixes with long slump life requirements, while the safe application in standard and difficult shotcreting operations was achieved with the use of Sigunit® L-5601 AF and Sigunit® L-53 AF. Secondary lining with fast strengths development was achieved with the use of Sika® ViscoCrete® 21.





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OTHER SIKA PRODUCTS

- Sika® Separol®-33 Universal
- SikaSwell® S2
- SikaPump® Start-1
- Sika® NB 1
- Sika Betonlöser
- Sika Elastomer FM 250
- Sika MonoTop®
- SikaRep® CZ
- SikaWaterbar®
- Sigunit® L-5601 AF
- Sigunit® L-53 AF

PROJECT PARTICIPANTS

Contractor: Salini Impregilo / Duha
Concrete producer: Zapa Beton.



Our most current General Sales Conditions shall apply. Please consult the most current local Product Data Sheet prior to any use.



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