

SK-I18 STREČNO SANÁCIA BRALA
ŽILINA, ŽILINA, SLOVAKIA**Dynamic Barriers****Problem**

The reason for addressing the situation was the collapse of a rock block onto the I/18 road. The rock block fell next to the existing dynamic barrier, damaging the guardrail and the road surface, leaving a crater with a depth of 20 cm and a diameter of approximately 2 - 3 meters. An emergency situation was subsequently declared because there was a risk of unstable blocks falling from unsecured sections over a length of 1,000 meters in the section from km 471.400 to 472.400.

Solution

Due to the damage to the rock slope, it was necessary to ensure road safety. Remediation measures needed to be implemented to prevent rocks from falling onto the road. Based on the engineering-geological survey, it was decided, that existing rockfall protection which was installed in 2010, had to be extended by using high-strength steel rockfall netting in combination with anchoring elements, protective fences and dynamic barriers. The solution was designed for the following sections: I-II-III.

Dynamic barrier 2000KJ, H=7m - section I.

Dynamic barrier 1500KJ, H=4m - section III.

Dynamic barrier 70KJ, H=2m - section I, section II, section III.

MacArmour 30/30/6 PMC with PC-coated steel plates.

17pcs of HELLOMAC sensors were installed on the posts of the dynamic barriers. These sensors represent an early warning system developed for monitoring measures and systems designed to protect against falling rocks.

Client: Slovenská správa ciest

Designer / Consultant: Geotechnik SK, s.r.o.

Contractor: Swietelsky - Slovakia, spol. s.r.o.

Products used (Qty.)

- Rockfall Barriers	655 m
- Macarmour & Steelgrid	930 m2
- HELLOMAC	17 pcs

Date of construction: 06/2024 - 11/2024

[Google Maps](#)

[Google Earth](#)



Main Road I/18



MacArmour & RB2000 installation



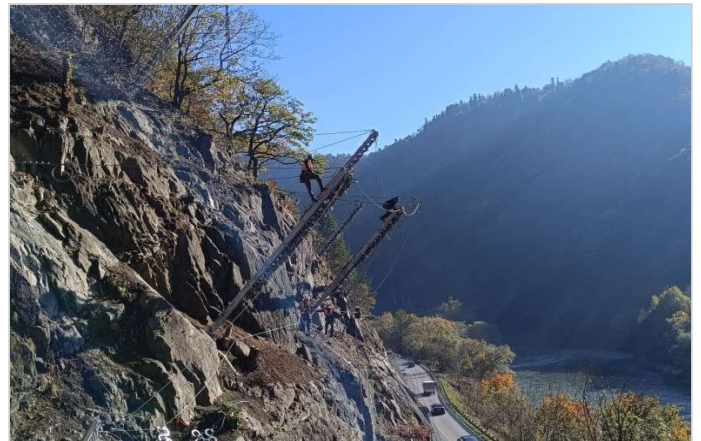
RB70 Low energy dynamic barriers



Hellomac sensors RB 2000



Hellomac sensors RB 2000



RB 2000 H7 installation



General elevation view on rockfall protection