

D1 HUBOVA-IVACHNOVA, Slope stabilisation solution READY C115, Slovakia

Hubova, Slovakia



View of the finished work

TYPE OF PROJECT

Surface Strengthening And Support

YEAR OF CONSTRUCTION

2025

CLIENT

Národná Diaľničná Spoločnosť, A.S.

CONTRACTOR

Združenie Čebat'

DESIGNER

MACCAFERRI CENTRAL EUROPE, S. R. O

PROD. RELATED

Rockfall Barriers (Null)

Challenge

The cut slope on the left side of the D1 motorway in the Hubová – Ivachnová section, chainage km 1.691 – 1.840 (approx. 150 m long), faced with gabion cladding, required additional reinforcement and stabilization against deformation. The solution had to integrate with the existing facing structure and allow fast, safe installation during ongoing motorway construction.



Installation of gabion facing



Installation of gabion facing

Solution

The slope was stabilized using the READY C115 modular stabilization system made of prefabricated steel elements:

- **READY C115 Reinforcing Crosses:** X-shaped steel crosses with SHS 80×80×5 beams (S355JR) and a central node of SHS 100×100×5 + CHS 114.3×5 are anchored at the centre by a drilled anchor through a 220×260×10 mm bearing plate. Module dimensions are 2.080 × 2.515 m, with a design spacing of 2.263 m (max. 2.350 m), an installation angle of 10 – 20° from vertical and a design resistance of 100 kN per element.
- **Module Interconnection:** Main and secondary perimeter wire ropes Ø12 mm (6×19-WSC) are threaded through 15 mm corner connecting plates (S355JR). The lower plates allow additional anchoring of the crosses, while the upper plates interconnect adjacent modules, forming a continuous stabilization system.
- **Facing Element:** Double-twisted steel wire mesh type 8×10, wire diameter 2.7 mm, with Zn-5%Al Class A + polymer coating.
- **Corrosion Protection:** The cross structure is hot-dip galvanized to EN ISO 1461 (min. 55 µm), fasteners are electroplated with zinc and wire ropes are zinc-coated to Class A.

Key Execution Features

- **Pre-Assembled Elements:** The crosses were delivered pre-assembled and ready for immediate installation, with no on-site assembly required. This accelerated construction, minimized installation errors and improved worker safety.
- **Integration with Gabion Facing:** Before installation, selected sections of the gabion facing were levelled and the bearing sill was cleaned. The crosses were placed on the sill and temporarily secured to the facing with steel wire until anchored.
- **Drilling Through Placed Crosses:** Anchors were drilled directly through the positioned crosses according to design requirements, ensuring precise anchor placement.
- **Two-Stage Activation:** The crosses were partially activated 24 h after grouting to secure their position, then fully tensioned after sufficient grout curing (min. 7 days) to a force not exceeding 100 kN.



Installation of Reinforcing crosses READY C115



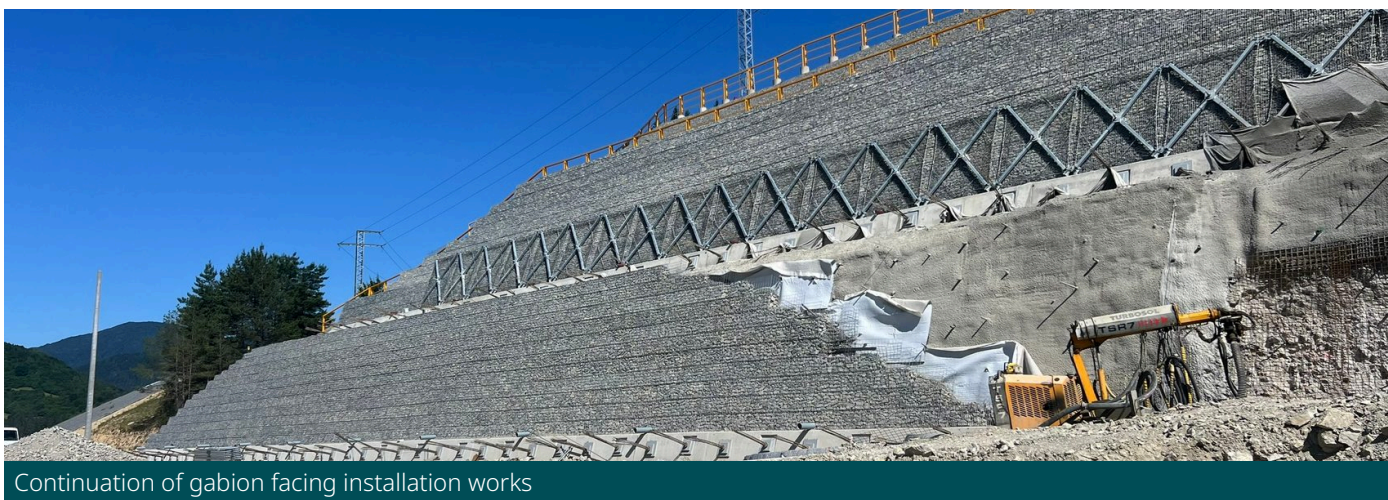
Installation of Reinforcing crosses READY C115



Continuation of gabion facing installation works



Continuation of gabion facing installation works



Continuation of gabion facing installation works



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