

## Tested Falling Rock Protection / Mod. RAV\_1/A

### TECHNICAL CARD

#### GENERAL DESCRIPTION

The falling rock protection mod. RAV\_1/A is a structure produced under UNI-EN-ISO9001:2000 quality certification suitable to prevent phenomena of falling rocks with energy development up to 250 kJ. Thanks to the maximum versatility of the system, the falling rock protection mod. RAV\_1/A can be used as deformable passive protection to preserve built-up areas, roadways or railways.

#### GENERAL FEATURES OF THE SYSTEM

The basic features which optimize the use of the falling rock protection mod. RAV\_1/A in every environmental condition are:

- adaptability to every morphologic and geo-morphologic situation, thanks to the system modularity, the matching of particular special pieces and the versatility of the foundation structures, easily adaptable to the real geotechnical characteristics of the ground;
- easy and economical installation, thanks to the system modularity, the easiness of the installation of the single components and the reduced number of drillings;
- easy and economical maintenance, thanks to the system modularity and the simplicity of disassembly and assembly of the single components;
- flexible system with low entity forces acting on the single components;
- limited post-impact elongation with net fence residual height as per Category "A" – ETAG 27 guideline;
- free movement of the net fence, thanks to its position as regards the posts and the lack of downstream cables;
- excellent response to simultaneous impacts on more net fences or to secondary impacts on the same net fence, due to the link of all the panels and the interaction of the whole front during the impact;
- no environmental impact thanks to the transparency of the structure and the structural lightness of its components.

#### PERFORMANCE FEATURES

The falling rock protection mod. RAV\_1/A is a structure tested for a maximum energy level of 250 kJ, "A" category according to the ETAG 27 guideline.

The dynamic full-scale tests have been performed according to ETAG27 (Guideline for European Technical Approval of Falling Rock Protection Kits), on a 3-field prototype, 15 m in total length and 2,00 m in nominal height.

The capacity of energy absorption as for MEL (Maximum Energy Level) and SEL (Service Energy Level) have been tested by the Laboratory of Geology and Geotechnics of the BTU University - Brandenburgische Technische Universität Cottbus in Cottbus (D) as official and independent authorisation office, in a test field equipped for vertical fall – Report of test BTU 10/02/2010.

Summary of the results of the MEL (Maximum Energy Level) test:

Impact energy	⇒	250 kJ
Impact speed	⇒	25,01 m/s
Residual height	⇒	1,15 / h <sub>R</sub> > 70%
Maximum elongation	⇒	3,86 m



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mod. RAV\_1/A  
MEL (Maximum Energy Level) 250 kJ  
Residual height category A ref. ETAG 27

Nominal height / h <sub>N</sub>	Posts spacing / l
2,0 – 2,5 m	5,0 m