Alberta Government

Product ID: 8242-8
Initiation Date: November 22, 2023
Revision Date: February 16, 2024
Expiry Date: February 2027

Product Evaluation

RE: Review of RISP PK Flexible Rockfall Barriers

PRODUCT INFORMATION	
Product Name: RISP PK Flexible Rockfall Barriers	Manufacturer: Risp Srl, Vascon di Carbonera (TV), Italy
Website: https://risprockfallprotection.com/	Supplier: Engineered Asset Upkeep Ltd., Clearwater, BC

VENDOR CLAIMS AND INFORMATION

CLAIMS

The RISP PK barriers combine speed and easy assembly with lightweight of the whole kit, because the post sections and all the components have been optimized; furthermore, the base components, such as the energy dissipation devices, are made of aluminum. The low weight helps handling of the kit even in hard site conditions, as rugged slope, or irregular ground, but also means savings on transportation costs. The energy dissipation devices absorb the applied energy by deformation and not by friction. They guarantee high performance with high energy absorption: this allows lower forces on anchors and limited structure deformations.

DESCRIPTION

The RISP PK barrier is essentially made up of high-resistance steel wire mesh, steel wire bearing, intermediate and perimeter ropes, energy dissipating devices and steel posts. A layer of mesh of variable dimensions can be laid on the main interception net with the purpose of filtering water and possibly the fine debris corresponding to a programmed granulometry. Barrier ropes can be adequately protected by anti-abrasive tubular devices. The foundations are made of double spiral steel rope anchors, installed within appropriate drillings in the soil and properly grouted and sealed. The main interception layer consists of a ring net and intermediate longitudinal cables, placed along the whole length of the downslope side of the barrier, thus forces are distributed along the barrier, reducing the stresses on the foundations. An additional interception layer of hexagonal wire mesh (optional) can be installed on the upslope side of the ring panels, in order to catch the small debris material which can fall down together with blocks in single real rockfall events. Each post has four upslope bracing cables: if one breaks during a rockfall event, the others can support the post.

POTENTIAL USAGE

The RISP PK Flexible Rockfall Barriers is a net barrier specially produced for the containment rock pieces sliding or falling along the hill slopes.

STANDARDS

- UNI EN 10025 “Hot rolled products of structural steels.”
- UNI EN ISO 1461 “Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods”
- EN 12385-4 “Steel wire ropes - Safety - Part 4: Stranded ropes for general lifting applications”
- UNI EN 10244-2 “Steel wire and wire products - Non-ferrous metallic coatings on steel wire - Part 2: Zinc or zinc alloy coatings”
- EN 13411-5 “Terminations for steel wire ropes - Safety - Part 5: U-bolt wire rope grips”.
- EAD 340059-00-0106 - FALLING ROCK PROTECTION KITS (replaces ETAG 027 “Guideline for European
- Technical Approval of Falling Rock Protection Kits” - version April 2013)
- Regulation (UE) n. 305/2011 of the European Parliament and of the Council.

Alberta Government

Product ID: 8242-8
Initiation Date: November 22, 2023
Revision Date: February 16, 2024
Expiry Date: February 2027

ALBERTA TRANSPORTATION COMMENTS

EXPERIENCE
Alberta Transportation and Economic Corridors has no experience with this product.

APPLICABLE STANDARDS
Alberta Transportation and Economic Corridors does not have a standard for debris flow, rock fall and avalanche protection. The mentioned caveats should be taken into consideration while designing.

RECOMMENDATIONS
RISP PK Flexible Rockfall Barriers be listed as a Potential Product under Alberta Transportation and Economic Corridors Products List, Rock/Debris Retaining System – Proprietary, based on the information provided. Final acceptance as a proven product will be based on field performance.

RESTRICTIONS ON USE
Caveat: The RISP PK barriers are available for different energy absorption capability from falling rocks. Rockfall and Debris flow barrier systems should be designed by a qualified engineer registered with APEGA and should be designed for the specific debris flow / rockfall hazard and site conditions. Specific engineering experience with rockfall / debris flow assessment, analysis, design, and implementation is considered central to successful project outcomes. At locations where potential wildlife habitat may be disturbed, an assessment by a professional biologist should be done.

TRIAL PROJECTS

Rishi Adhikari
cc New Products Evaluation Group – Roger Skirrow,
Rocky Wang