

Product Evaluation

RE: Review of RISP RMC Channel Type Debris Flow Protection Barriers

| PRODUCT INFORMATION | |
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| Product Name: RISP RMC Channel Type Debris Flow Protection 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 RMC 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 (lightweight and durable material). 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 barrier is essentially made up of high-resistance steel wire mesh, steel wire bearing, intermediate and perimeter ropes, energy dissipating devices and steel posts to be installed if required. 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.

POTENTIAL USAGE

The RMC DF barrier is a net barrier specially produced for the containment of debris flow or superficial landslides, which is designed to halt debris, rocky boulders, trees, etc., suitable to be installed in riverbeds or natural channels.

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 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 rock fall and avalanche protection. The mentioned caveats should be taken into consideration while designing.

RECOMMENDATIONS

RISP RMC Channel-type debris flow protection 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: RISP RMC Channel-type debris flow protection 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 fish habitat may be disturbed, an assessment by a professional biologist should be done.

TRIAL PROJECTS

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