

Maccaferri Rockfall Netting The Cost-Effective Solution

Identification of an appropriate design approach is the key requirement in achieving cost effectiveness on rock slope remedial works projects. When preparing a solution, the designer will consider a number of options. Selection of a suitable solution can be simplified by classifying the options according to mode of action in relation to the unstable rock mass:

- Avoidance
- Removal
- Containment
- Strengthening

Research conducted by TRL Limited for the Scottish Office (now Scottish Executive) found that in most situations *Containment* works are the most cost-effective approach. Furthermore where verge space is restricted, as is often the case, rockfall netting is generally the most cost-effective solution.

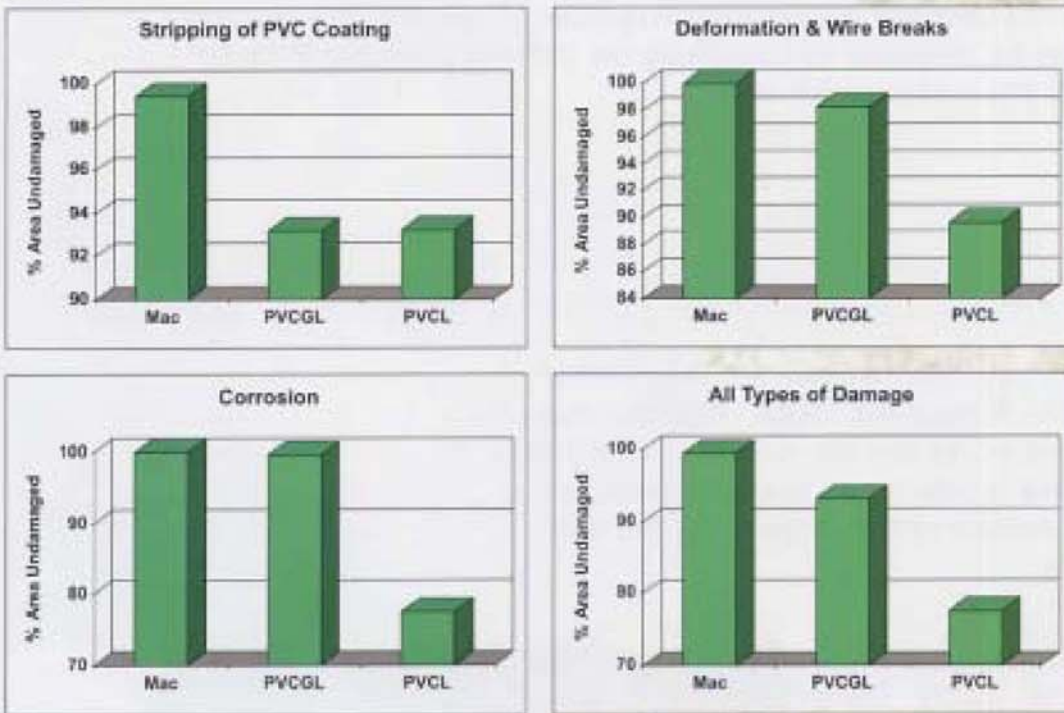
The research also concluded that the common practice of rigidly fixing netting to rock slopes is counter productive and the most cost-effective solution is a simple draped netting installation. This requires less installation effort, uses less material and is more effective at controlling falling rocks.

A further issue addressed by the work of TRL was the visual impact of netting. While it is generally accepted that there is a visual impact issue with netting it is no greater than many of the alternative options. Installations have naturalised with the environment as vegetation re-establishes in some areas (Figure 1). The use of specific bio-engineering techniques can be designed into the solution to minimise the visual impact.



**Figure 1 - Vegetated Rockfall Netting Installation
A82, Loch Ness, Scotland**

Where Containment has been chosen as an approach and rockfall netting as the solution the designer must then consider material specification. Independent research carried out by TRL for the Scottish Office investigated the in-use performance of a range of rockfall netting materials. The research involved detailed investigation of a large number of rockfall netting installations in a range of environments. The results are summarised in the charts below.



Key: **Mac** - Maccaferri rockfall netting; **PVCGL** - PVC coated, galvanised chainlink; **PVCL** - PVC coated chainlink

The choice for the designer is simple. Maccaferri Rockfall Netting significantly outperforms all other types of mesh included in this study in most aspects of performance.

Maccaferri can provide extensive assistance in the design and specification of Rockfall containment projects. Alternatively we can direct our clients to appropriate specialist consultants and contractors from our extensive network of contacts.

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