ROCKFALL NETTING

Geofabrics range of Maccaferri rockfall drapery systems are designed to control rockfall movement by guiding falling debris to a collection point at the toe of the slope thus protecting structures from debris damage.

Produced by Maccaferri for over 140 years, double twist mesh is the most established technical rockfall protection solution in the world. Hexagonal woven mesh is supplied as rolls (both width and length selected by customer) for ease and economy of use.

Unlike single twist (‘chain link’) mesh the construction of DT mesh inhibits the propagation of tears making it an extremely durable and easy to use product.

The head of the 20km long Torrens River Valley is located approximately 12km north-east of the centre of Adelaide at the base of the western slopes of the Mount Lofty Ranges. The deeply entrenched river system creates a rugged topography with valley walls rising up to 250m above the river below.

Gorge Road was originally excavated in the floor of the valley in the mid 1800s as one of only few access roads across the north-eastern section of the Ranges. The road was used for bullock teams travelling to the small townships beyond. It now handles over 800 vehicles per day in each direction; the vehicles using it to service the light industry and housing developments that have developed throughout the Ranges. In 1969, the Kangaroo Creek Dam was constructed 8.5km up the valley. Part of this project involved constructing a 5.6km long diversion road adjacent to the reservoir up to 75m above the valley floor. The road has a 6.5m carriageway and an average 1.8m wide shoulder.

Some cuts immediately adjacent to the road are up to 50m high however the rock faces above them often extend for twice this height. Some areas of strongly foliated schists within the cuts have weathered and lost strength, leading to rockfalls, primarily during periods of heavy or prolonged rainfall.

CASE STUDY:

FLEXIBLE ROCKFALL BARRIER

GORGE ROAD, SOUTH AUSTRALIA
MAY 2008

CLIENT: TRANSPORT SA
CONTRACTOR: RETAINING WALL SOLUTIONS
To address the potential for rockfall problems, the State road authority, Department for Transport, Energy and Infrastructure, commissioned a 500kJ Maccaferri rockfall barrier to be installed. The 60m long barrier was installed 5m above the road. Sections of the barrier were 2m and 3m high to suit the local topography.

This barrier was full scale tested in compliance with ETAG 027 Guideline directions (Falling Rock Protection Kits), indicating that it has undergone the rigorous testing necessary to evaluate the technical performances for barriers of the rated capacity. The crash test involved a 1610kg boulder impacting the barrier at 25.6m/s. Maccaferri are able to provide flexible rockfall barriers up to 5000kJ (16’200kg boulder travelling at 25.77m/s). Please visit www.eota.be for more information on the ETAG 027 guideline.

Maccaferri double twisted woven mesh rock fall netting was draped below the barrier to ensure that rocks did not roll out from under it where it crossed low points in the topography.

The specifications and location for the barrier and site supervision were provided by Rocktest Consulting. The complex construction work was carried out using boom lifts and roped access techniques by Retaining Wall Solutions in only three days once the drilling was completed.