

GRAN CANARIA, CANARY ISLANDS, SPAIN

ROCKFALL PROTECTION
Product: *Dynamic Barriers*

Problem:

GC 210 is a national highway in Gran Canaria, Canary Islands (Spain). During the course of the road, between the local municipalities of *Tejeda* and *Artenara*, there are slope instability problems.

The road's massif consists of different lithology materials that are being eroded in a differentiating way by the atmospheric agents.

This, in combination with the geomorphological structure, has given rise to different episodes of instability, all of them related with the escarpment's differential evolution.

More specifically, soft materials are eroded with a resulting formation of small caves and/or big rock strata. Environmental influences, in conjunction with the discontinuities that already exist, lead to some block's isolation, a fact that threatens the road safety.

There have been several severe rockfalls that have even caused the road closure.



—Rockfall Barrier

Date: 2/2015



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Client

Ring Canarias

Main contractor

Ring Canarias

Designer

Cabildo de Gran Canaria

Products used

Rockfall Barrier

Date of construction

May 2010 - August 2010



Solution:

The technical solution adopted is the protection of the road by placing a rockfall barrier whose aim is the interception and retention of potentially unstable rocks located at the top of the escarpment.

A detailed investigation was carried out involving the analysis of the most dangerous trajectories and the energy calculation. A 80 m long x 6 m high, 8600 KJ barrier was selected.

It consists in a rockfall barrier formed by posts, upslope bracing cables, energy dissipating devices and an interception structure formed by a ring net which is at the same time reinforced by an hexagonal double twisted wire mesh.

This barrier, made in Italy by Maccaferri and installed in the building site by the specialist company Ring Canarias, has ETAG 027 compliance (Falling Rock Protection Kits) which provides class 8 regarding the energy level, and category A for achieving a barrier residual height higher than 50 % of the nominal height after the crash test.



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