



**MORE RELIABLE THAN
STANDARDS REQUIRE**

ROCCO® rockfall barriers

ROCCO® rockfall barriers are the world's first and only systems to provide full protection over the entire net area.

BRUGG
Geobrugg 

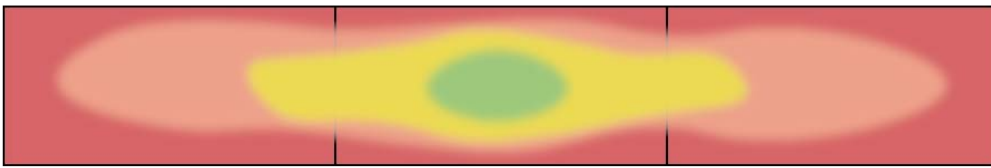
Safety is our nature

The true benchmark: Real load cases

To meet the standards according to EAD 340059-00-0106, rockfall protection systems are solely tested on the center of a three-field barrier. Consequently, the energy capacities specified by the manufacturers are only certified at one point. For this reason, in 2018, Geobrugg developed additional tests in a research project with the Swiss Federal Institute for Forest, Snow, and Landscape Research (WSL). These tests were first applied to the new ROCCO® systems.

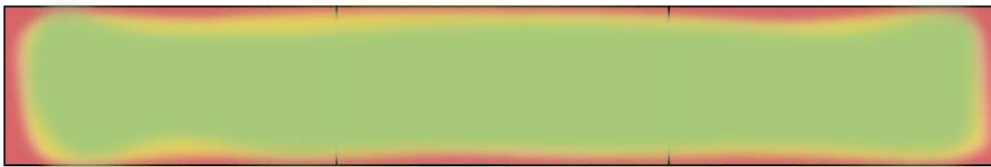
Allowing safety to reach the corners

When the entire protection area works, needs-based planning of protection solutions becomes easier.



What a certified barrier must fulfill

Test method according to EAD 340059-00-0106



What is expected of a barrier

WSL additional tests

Rethinking and redoing rock impact testing and approvals



Field tests with real load cases

Field tests with sensors from the post base to the anchoring: In these tests, impacts with different rock shapes are tested to verify load cases beyond current approval tests. As a result, a wide range of research questions were answered.



Standardized tests for real loads

To be able to compare rockfall barriers, reproducible tests are necessary. In the research project with WSL, load cases in nature were compared with those in the test facility - resulting in the development of standardized tests.

The tests cover factors such as rotating rocks, post hits, asymmetric load cases, different rock shapes, border field impacts, or suspension rope hits

One barrier for all cases

Rockfall barriers of the ROCCO® series comply with all existing worldwide standards such as EAD 340059-00-0106, ONR 24810 and FOEN (BAFU) Guideline. This system also resists tree impacts, impacts in the border fields, outside the center of the net and also in rope separation solutions.

No guideline specifies these load cases. Nevertheless, these barriers have been thoroughly tested for these load cases and approved by independent approval authorities.



MEL Eccentric:

Full energy absorption up to the edge

Because boulders rarely hit exactly in the center of the field, ROCCO® barriers are tested to withstand eccentric impacts at maximum energy level. Thus, this test takes into account asymmetric load cases.



MEL single-field hit:

The world's toughest test

Because one- and two-field barriers and edge fields must equally absorb the maximum energy, ROCCO® barriers are specifically tested on this. This allows planners to include edge fields and shorter barriers in hazardous areas.



MEL suspension rope separation:

Long system, full performance

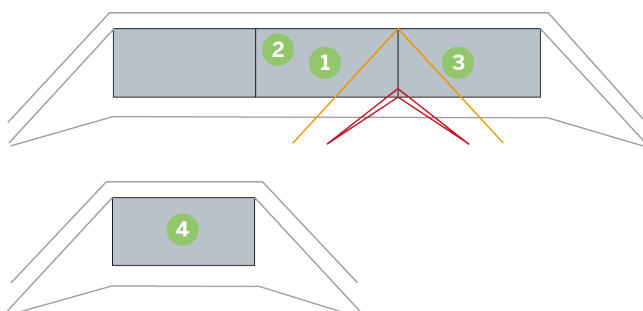
Because safety must be consistent for longer barriers, ROCCO® barrier support rope separation fields were tested at the maximum energy level.



SEL tree impact test:

When the unexpected happens

Because it is not only rocks that need to be stopped by a barrier, ROCCO® barriers have also undergone extensive tree impact testing.



MEL **Maximum Energy Level**
SEL **Service Energy Level**

- 1 MEL and SEL into the middle section as EAD admission test
- 2 MEL asymmetrically into the upper corner
- 3 MEL into the suspension rope separation
- 4 MEL into a single-field barrier

WE DON'T LEAVE SAFETY TO CHANCE

In nature, neither block shapes nor impact points can be planned:
ROCCO® barriers are tested in a wide variety of load cases.
In the vertical drop. With the maximum energy level.

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Geobrugg AG

Aachstrasse 11 • 8590 Romanshorn • Switzerland
www.geobrugg.com

Video of a ROCCO® Installation

Scan code or view at:

www.geobrugg.com/install-rocco



You can find more information on our website:

www.geobrugg.com/rockfall

