TECHNICAL NOTE

Global Synthetics
LEADERS IN GEOSYNTHETICS

Linklok®

Erosion solution versus bonded mesh netting/matting

General

The use of structural netting (double twist weave) has been used throughout Australia for many years due to the unique weave pattern that is employed, in the construction of the product. The weave minimises the likelihood for potential unravelling of the mesh under load, with corresponding loss of structural integrity. Generally the product has been marketed as a rock fall netting product. The product has good tensile strength (>43kN/m) when supplied as an 8x10 mesh 2.7mm product. Global Synthetics can supply this mesh configuration with a variety of coating options for a range of exposure and design life requirements. Where the sole function is the prevention of rock movement from an unstable slope onto lower ground the product has proven itself throughout the world with many successful stabilisation treatments completed. However, there is an increasing awareness to develop any stabilisation treatment in conjunction with vegetative cover, to the treated face, where possible.

Some companies provide a product with a "bonded" erosion mat to the netting to minimise the potential for soil loss through the face of the mesh openings and to provide protection of in place soils and to promote vegetation growth of the treated slope.

The major issue in such systems is that the relatively stiff twisted rock fall netting has difficulty in closely conforming to the ground surface and does not provide positive, intimate soil contact that is necessary for any product to minimise soil erosion. The "bonded" erosion mat that is affixed to the netting cannot be closely pinned to the soil surface and hence there is an increased likelihood in rainfall events that erosion of the face will continue even after the installation of such a product.

Global Synthetics promote the use of separate systems, that, when used in conjunction with each other, combine the benefits of a proven Turf Reinforcement Matting (TRM) with the strength of the netting product. The products are Landlok® 450, Pyramat® 25 or Pyramat® 75 (dependent upon the application) for positive soil erosion protection and the Link® 8x10 netting product for strength and more structural issues associated with steep bank stabilisation works. Full technical details of each product are available from Global Synthetics.

The TRM product selected has the required flexibility to closely follow the ground profile, is pinned such that the TRM is held in place and provides an environment for positive vegetative growth. The TRM is highly UV stabilised with up to 10,000 hours accelerated testing to demonstrate the long term performance against degradation issues. The Link® netting overlays the TRM, with permanent fixing of the netting to the slope and adequately designed to withstand design forces from ground and rock movement.

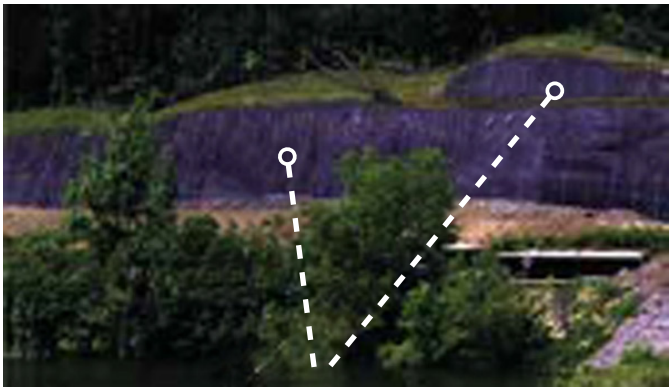
Example of a "bonded" matting/twisted netting propriety product after installation





Linklok ® Erosion solution versus bonded mesh netting/matting

Example of LINKLOK® SYSTEM



Steep Slope (0.5:1) with Pyramat® 75 Rock Bolted to Slope



Vegetation Establishment Already Starting

Rock Bolts Installed Anchoring Pyramat® 75 to the Slope



Vegetative Establishment After 3 years



Close up of Vegetation Establishment

About Us

Leaders in Geosynthetics

Global Synthetics is a 100% Australian-owned company, proud to offer a complete range of high-quality geosynthethic products backed by over 200 years of combined staff experience in the industry.

We have supplied products to some of the largest recent infrastructure works in Australia. Global Synthetics provides major benefits to any geotechnical engineering project with the right products and our technical expertise.

Global Synthetics products are used in the following applications:

- Pavement Stabilisation
- Ground Improvement
- Soil Reinforcement and Retaining Structures
- Water Management
- Drainage Systems & Hydraulic Works
- Landfills
- Coastal Erosion Structures

Get in Touch

AUSTRALIA

Website
globalsynthetics.com.au

Email
info@globalsynthetics.com.au

New South Wales
(02) 9725 4321

North Qld
(04) 5921 1692

Victoria/Tasmania
(03) 9791 1772

Queensland
(07) 3865 7000

South Australia
(08) 8384 8894

Western Australia
(08) 9459 4300

NEW ZEALAND

Website
globalsynthetics.co.nz

Email
info@globalsynthetics.co.nz

Auckland
0800 510 120

Christchurch
0800 510 120



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