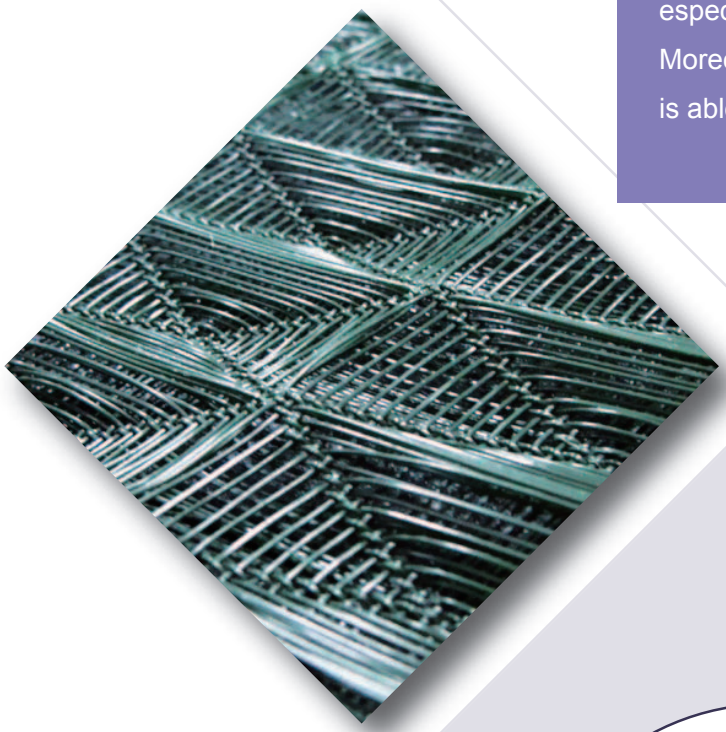
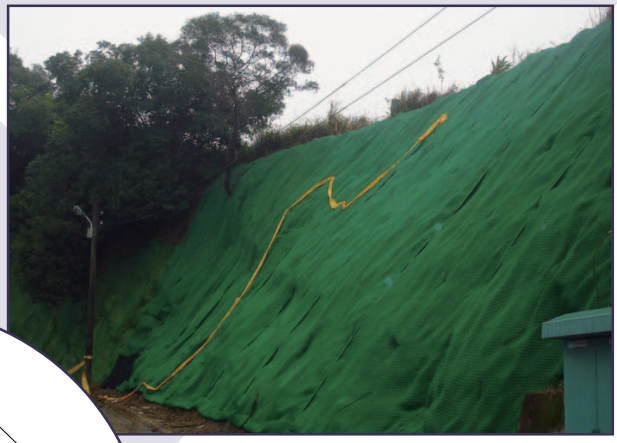
ACEMat™ R

ACE Geosynthetics

Introduction

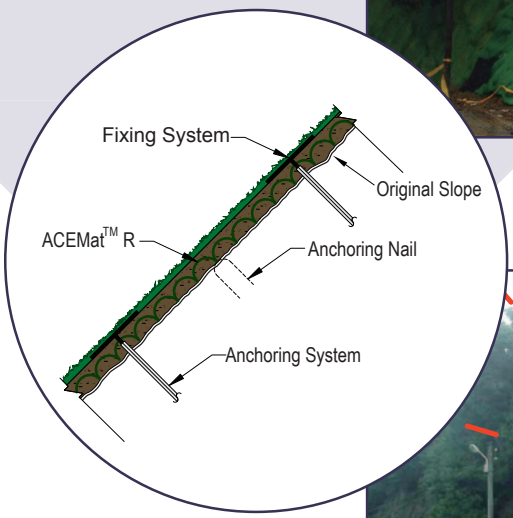
ACEMat™ R Series is a special design geomat made of dark green polypropylene monofilament, woven together to form a firm, flexible mesh structure with rectangular pyramidal pattern. The pattern is designed to provide an anchorage for vegetation, and also act as a means of prevention for erosion; especially to steep slope, barren area, and rainy area. Moreover, when properly anchored with soil nails, ACEMat™ R is able to enhance the slope with protection against rockfall.





Characteristics

- Outstanding anti-erosion performance.
- Rockfall-proof can be achieved when incorporating with soil nail system.
- Cost-efficient for steep slope application.
- Excellent vegetation effect.



Applications

- Normal to steep slope vegetation.
- Slope vegetation in rainy area.
- Dense hydroseeding in barren area.
- Protection for shallow slope with fragmental geology.

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Case Study

Location: Taichung, Taiwan

Application: Vegetation and Protection of Slope with Fragmental Geology

◆ Background

This project took place at tunnel portal No.9 of an old railway (currently a public bikeway) in Taichung; and according to the environment geological map of the Central Geological Survey, it was in debris slide region. The weathered soil layer on top of the fragmental sandstone above the tunnel portal was about 1 to 2 meters; it was sensitive to movement and external impacts.

◆ Problem / Task

In July 2006, torrential rain washed the region. The slope surface was saturated with rainwater, which formed a glide plane between soil and the rock, and caused the surface soil to slide off the rock layer. The sliding spot loosened the bonding of the surface soil layer adjacent to it; eventually the sliding area expanded. The task was to control, protect, and prevent further sliding effect and rockfall of the slope.

◆ Solution

3D diamond wire mesh was first anchored onto the bare slope with vegetation material. After hydroseeding on the vegetation material, high tensile strength ACEMat™ R was then fixed on top of it with soil nails and loading plates, to protect the vegetation materials and seeds from being washed out by rain. Moreover, the application of ACEMat™ R could also protect the slope from rockfall. The overall construction was done in a short period of time to prevent further deterioration.

◆ Result

ACEMat™ R helps the vegetation to remain and spread over the slope. The outcome is a natural, well protected slope. After several typhoons the slope is still stable with green vegetation. The method with ACEMat™ R is proven to be easy and effective to steep and bare slope.

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