

Secumat®

Project name
Car Park, Emden, Germany

Erosion control of a car park trench

Products
Secumat® 601 201



 Naue

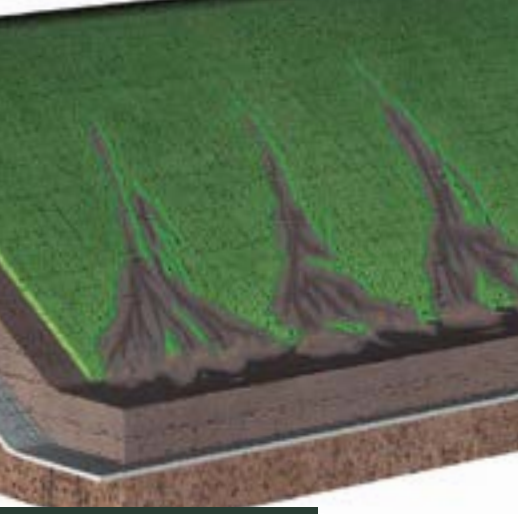


Fig. 1: Erosion on the slope

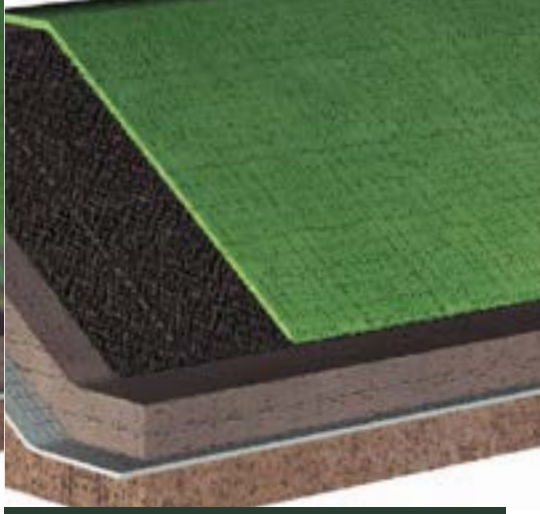


Fig. 2: Naue Secumat® erosion control system



Fig. 3: Installation of the Secumat® erosion control system

Challenge

Around an approx. 50,000m² car park for new cars of a German car manufacturer, a trench was planned to collect the surface water.

To make optimal use of the available space, the slopes of the approx. 2m deep drainage trench needed to be as steep as possible. During heavy rainfall there was a risk of erosion damage of the slopes, which was further increased by the slope steepness. Surface erosion, damage to vegetation, sludge accumulation and eventually deep erosion grooves can result in unacceptable subsidence of the car park. These settlements endanger both the stability of the slope and the function of the parking area.

Solution

Erosion damage could be prevented by installing an Naue erosion control system. The contractor decided to use the Secumat® permanent erosion control mat. A two-layer combination product was used

here consisting of a three-dimensional extruded monofilament core (thickness = 20mm) with a mechanically bonded nonwoven fabric on the bottom side.

While the applied topsoil was embedded in the extruded monofilament core in an erosion-resistant manner, the nonwoven layer prevented soil particles from washing out from underneath during heavy rainfall and initial growth. At the same time, the nonwoven fabric achieved good friction behaviour of the entire system to the subsoil, which was necessary with the 1:1.5 steep slopes and the prevailing soil.

The open extruded monofilament structure favoured rapid and long-term vegetation. The Secumat® erosion control system has been in use since 2006 and protects the car park perimeter against surface-parallel erosion.



Fig. 4: Installed erosion control mat with vegetation

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