

Case Study

Coastal protection and beach extension with geotextile sand containers **SECUTEX® SOFT ROCK**





Coastal erosion processes often threaten buildings, infrastructure elements, and the viability of shoreline recreation areas. Countermeasures, using geosynthetics, are utilised to protect these spaces and structures.

The seaside resort of Pattaya on the Gulf of Thailand, south of Bangkok, provides an exemplary case. There, geotextile sand containers (Secutex® Soft Rock RS 801 a) were used as ballast and a geotextile filter (Secutex®) was installed on the subsoil below the sandcontainers. This revetment solution, subsequently covered by a sand protection layer, was engineered to maintain the beach surface area and enable beach expansion.

In total, 2.7km of beach were protected and the beach was extended to a width of 35m. For an internationally known holiday destination – one heavily dependent on tourism – it was an ideal solution.

The Secutex® Soft Rock RS 801 a geotextile sand containers were supplied with a beige color. This enabled the 28,000 containers to blend in with the surrounding beach. Each container used a filling volume of 1m³ and was filled with sand from the project site itself, which provided considerable savings for the project owners and greatly reduced material transportation needs to the site.

To further protect the site, a 45° sloped embankment was constructed on the water side of the installation. This embankment also was built using geotextile containers. A final cover (sand protection layer) was added to guard against potential mechanical damage, vandalism, and weathering to the beach protection system.

Mr. Ekarat Khantaro, Regional Director of the Pattaya Regional Harbor Office, said the successful works utilising geotextile



containers presented a model solution to be replicated on other beaches. The ability not just to protect the beachfront but extend it was also highly prized, as it enhanced the tourism potential for the area. In short, both local officials and guests have reason to relax.



Project Name:
Pattaya Beach, Thailand

Engineer:
Chulalongkorn's Geology Department,
Chulalongkorn University

Installation Contractor:
Marine Construction JV Co. Ltd.

Product:
Secutex®
Secutex® Soft Rock RS 801 a



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