

CASE HISTORY

Anti-erosion measures along the Cagliari-Nuoro state highway n. 125, in the isle of Sardinia, Italy

PRODUCT	TENAX TENWEB 300 Geocells
LOCATION	Foxi (CA), Italy, 1990
OWNER	ANAS - Cagliari
PROJECT	Ing. Sanna - ANAS - Cagliari
CONTRACTOR	Sardappalti Srl - Cagliari



PROBLEM

Sardinia is a very dry region where the lack of water creates problems in everyday life. In this region the rain can be torrential. The soil is highly erodible since it is usually dried by sun and wind.

This is particularly true on the mountainous areas where the combination of rain and steep, can quickly create surface runoffs capable of leading to the erosion of large areas of land. In Foxi, located on the Cagliari-Nuoro State Highway, at 50 kilometres from the sea, anti-erosion measures became necessary on the slopes of an inland mountain.

A previous measure, which had involved covering the area with soil mixed with crushed granite, had brought to the irreversible impoverishment of the topsoil and the almost total disappearance of vegetation from the area.

This led to severe erosion of the area and the formation of calanques. The problem was thus to implement measures to remedy this environmental decay by adopting an effective protection against erosion and the re-establishment of vegetation.

SOLUTION

Approximately 10 cm of the topsoil, which consisted of soil mixed with crushed granite, was replaced with vegetative soil confined using TENAX TENWEB 300 Geocells.

Thanks to the confining action of the three-dimensional honeycomb structure of TENAX TENWEB 300, it was possible to obtain:

- the stabilisation of the slope's topsoil, protecting it against weathering effects;
- the spreading of a loam soil filling allowing the later re-grassing of the area;

The operation concerned a sloping area of approximately 7,000 m² having an average gradient of 3V/2H for a total development of approximately 1,350 m

CONCLUSIONS

The use of TENAX TENWEB 300 proved to be the easiest and quickest method for controlling erosion on arid, sloping areas. The ease of installation meant that the job was completed in a very short time by unskilled labour, the work was carried out by only 4 workers, two of which were truck drivers and grab bucket operators, and a foreman. The strength and flexibility of TENAX TENWEB 300 allowed it to be laid following the exact geometry of the slope.