

# Woven geobags for riverbank erosion protection

## Sungai Tenglu, Johor, Malaysia

### Project Data

<b>Project</b>	: Sungai Tenglu, Johor, Malaysia
<b>Client</b>	: Drainage and Irrigation Department
<b>Product Used</b>	: Geotube® Geobag GB400MX3

### Overview

A meander of the Sungai Tenglu in Johor Malaysia was constantly subjected to significant fluctuations in water level during heavy monsoon rain. Progressive erosion of the riverbank along various sections of waterway had significantly weakened the embankment and threatened a massive collapse and loss of reserve land. The situation was such that Emergency repair works were deemed necessary to avoid further erosion during the pending monsoon season.

To solve this problem the Malaysian Dept. of Drainage & Irrigation (DID) evaluated various erosion protection methods before including traditional methods such as Gabions before finally settling on an option using large sand filled Geobags. The woven Geobags from TenCate were the preferred option due to their overall cost effectiveness and ease of filling and handling.

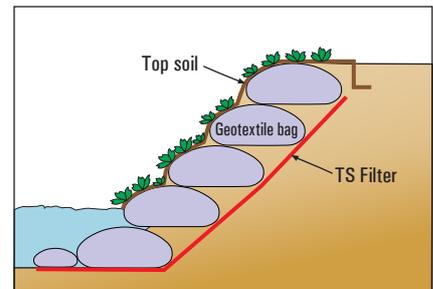
### TenCate Geobags

Filled Geobags are heavy and usually subjected to rough handling during installation. To ensure that every TenCate Geobag delivered to site can withstand installation stresses without bursting, each bag is fabricated and tested to exacting standards. The Geobags are manufactured from heavy duty woven tapes, and sewn in such a manner that the seams can withstand rough handling without bursting. Additionally the fabric used to manufacture the bags is designed to ensure retention of soil particles under varied hydraulic and dynamic and abrasive stresses.

### Installation

Prior to installation of the Geobags the section of river to be repaired was trimmed back. The filled Geobags were then laid in an overlapping shingle style beginning at the toe of the embankment, to ensure maximum stability and protection of the riverbank during high water flows. To facilitate efficient filling, TenCate provided the sub-contractor with a simple filling frame. Nylon lifting straps were used to lift and position the bags in place.

Finally, once laid the bags were covered by a layer of soil, compacted, and protected by a layer of Polymat Erosion Protection matting. Soil was placed in the matting which was then hydroseeded. To protect the hydroseed from rain, a light dusting of topsoil was then placed over the top surface.



Typical cross section of Geobags riverbank protection.



Setting alignment prior to Geobags installation.



Site condition before construction.



Overview of Geobags installation at project site.

Geotube® is a registered trademark of TenCate.

Further details of this application and products can be obtained by contacting your nearest TenCate Technical Support Office.

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