

Polyfelt® PEC reinforced soil retaining wall

Vijayawada, India

Project Data

Project	: Kanaka Durga Temple 22m high reinforced wall structure
Location	: Vijayawada, India
Products Used	: Polyfelt® PEC 75, PEC 100, PEC 150, & PEC 200

Overview

The famous Kanaka Durga temple is situated on Indrakiladri hill on the banks of the Krishna River at Vijayawada, in India's southern state of Andhra Pradesh. This temple attracts millions of worshippers every year during the festive seasons. The existing road built in 1969 is about 3km long was only 3m wide at few locations and could not cater for the increase in heavy traffic.

TenCate technical assistance and experience was sought to provide the most economical solution to widen the road. After analysis, it was decided to use segmental retaining wall using Polyfelt® PEC compared to other options such as a bridge or widening by excavation of the hill.

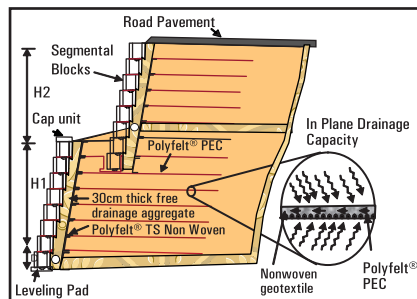
Design and Construction Methodology

The 22m high wall was split into two tiers, 12m and 10m high with an offset of 5m and design according to BS8006. The top tier was designed as an individual wall with due consideration of traffic load whereas bottom tier wall is designed considering the full surcharge of 10m and traffic load from the upper tier wall. Locally available murum soil

with friction angle of 32 degrees was used as back fill material.

A composite geotextile consisting of high strength polyester yarn incorporated to a non woven continuous fiber geotextile provides both tensile strength and drainage functions was used as reinforcement for the wall system with tensile strengths varying from 50kN/m to 200 kN/m.

In this project the high strength geotextile reinforcement layers was installed at an inclination at degrees to achieve better pullout resistance and all reinforcement layers was anchored at the farthest end in a trench backfilled with soil for tensioning.



Inplane drainage provided by Polyfelt® PEC



Before construction



During construction



Close up of Polyfelt® PEC and segmental blocks.



Side view of the segmental wall using Polyfelt® PEC reinforcement.

Polyfelt® 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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