

CASE STUDY

Drainage & Separation | Rail | Transnet Ermelo

Jun 2012

Client Tubular Track

Contractor Alzette Construction

Consultant Tubular Track

Product

bidim® 10 000m² | Flo-Drain 4 000m



An equivalent of **286 486** recycled PET bottles was used in this project

Problem

When planning the construction of two new Transnet railway lines adjacent to an existing line in Ermelo, Mpumalanga, subsoil drainage problems and space limitations were encountered. The rehabilitation of the formation structure necessitated an effective drainage system to prevent the ingress of water into the layerworks.

Solution

To effect subsoil drainage, rail line installers, Tubular Track, specified the construction of a blanket drain with a lateral fin drain. In the past, sand blanket drains were constructed for subsoil drainage beneath the formation but proved problematic as the sand layer was easily contaminated by the fill and the thickness was difficult to control under heavy traffic. **bidim® A10** was used as the drainage and separation layer as it maintains the integrity of selected fill material over very low CBR subgrades, whilst allowing the dissipation of pore water pressure within its plane resulting in rapid stabilisation. This effectively has superior performance to sand blanket drains as proven in testing.

The lightweight, flexible **Flo-Drain** was installed vertically alongside the excavation and the **bidim® A10** was lapped against it to ensure passage of the intercepted water into the collector pipe at the base of the **Flo-Drain™**. The system is easy to transport and easy to install in reduced trench widths, a particularly important factor in this project where time is of the essence.



***bidim® A10** as a separation layer*



***Flo-Drain™** for subsoil drainage*

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Benefits

With ever increasing costs of transport, labour and suitable sand aggregate, the **bidim[®] A10** and **Flo-Drain[™]** systems have proved to be an effective and economical drainage option for Transnet's vast rail network.