

Polyfelt® PGM-G asphalt reinforcement

Expressway rehabilitation works at North Luzon Expressway, Philippines

Project Data

Project	: Rehabilitation of North Luzon Expressway (NLEX)
Owner	: Department of Public Works & Highway, Region 3
Consultant	: Department of Public Works & Highway, Region 3
Products Used	: TenCate Polyfelt® PGM14

Overview

The project is located 70km north of Manila. The old pavement was Portland Cement Concrete Pavement (PCCP) which had reached its serviceability design life of 20 years. Visual site inspection showed that the pavement was heavily deteriorated with longitudinal and transverse cracks and spalling joint and concrete scaling in some areas. Due to high traffic volumes and it is main link to Manila, it was not viable to close the highway. The Department of Public Works & Highway decided to use paving fabric to rehabilitate the road instead of conventional "remove and replace method (re-blocking)" to minimize traffic disturbances and construction time.

Installation

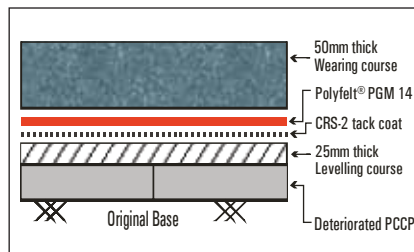
The resurfacing works were carried out in daytime. Cathodic Rapid Setting (CRS 2) emulsion was sprayed onto the old concrete pavement using a bitumen tanker to bond the paving fabric and the old pavement. The spray rate of the emulsion/tack coat is 1.6 l/m² with penetration range of 90 – 200 pen and 70% bitumen content. Once the emulsion break, laying of paving fabric was carried out using an installation rig. The paving fabric was intact without melting during placement of new asphalt concrete overlay.

Advantages of Polyfelt® PGM14 Paving Fabric

Polyfelt® PGM 14, non-woven paving fabric is made from polypropylene continuous filament.

Polyfelt® PGM 14 offers the following benefits:

- Delay the reflection of stress cracks through the new overlays and hence extending the life span of the new overlays.
- Provide a uniform bonding between the new overlays and the old concrete pavement.
- Provide a flexible waterproof layer between the old concrete surface and new overlays which preventing water migration into the road pavement.



Typical cross section of Polyfelt® PGM14 paving fabrics.



Spraying of tack coat by using a bitumen tanker.



Laying of Polyfelt® PGM14 on tack coat with a paving installation rig.



Installed Polyfelt® PGM14 paving fabric along the expressway.



Completed road section opened for traffic.

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.

Unauthorized reproduction and distribution prohibited. This document is provided as supporting service only. The information contained in this document is to the best of our knowledge true and correct. No warranty whatsoever is expressed or implied or given. Engineers wishing to apply this information shall satisfy themselves on the validity of the input data relative to the applicable soil and engineering conditions and in doing so assume design liability.