

Polyfelt PGM-G asphalt reinforcement pavement fabric

Runway rehabilitation works at Yangon International Airport, Myanmar

Project Data

Project	: Yangon International Airport Runway Extension Project
Geotechnical Consultant	: Agricultural & Industrial Development Co., Ltd.
Civil Consultants	: Public Works, Ministry of Construction
Client	: Department of Civil Aviation, Ministry of Transport
Main Contractor	: Public Works, Ministry of Construction
Products Used	: TenCate Polyfelt PGM-G 50/50
Completion Date	: December 2006

Overview

Yangon International Airport in Myanmar was originally constructed by the Calcutta Metropolitan Airports Authority in 1947. The 2,470 m runway is 61 m wide and comprises asphalt concrete with touchdown zones comprising reinforced concrete in 7.6m x 7.6m panels.

The upgrading works proposed installation of 125 mm of new asphalt concrete, laid in two layers of 75 mm and 50mm, over the whole runway, including concrete touchdown zones.

Application

To delay the onset of reflective cracking of construction joints through the new asphalt overlays it was proposed to install Polyfelt PGM-G 50/50 pavement reinforcement fabric in 1m strips between the old concrete and 1st layer of overlay and between the first layer of new overlay and 55mm asphalt wearing course. The purpose of the pavement reinforcement fabric is to reinforce the asphalt concrete pavement layers and absorb temperature and traffic stress between the different layers, and delay and offset the effects of reflective cracking.

Product Characteristics

Polyfelt PGM-G pavement reinforcement fabric comprises fiberglass reinforcement yarns

bonded to a pavement fabric. The fiberglass yarns (in this case exhibiting a tensile strength of 50kN x 50kN) act to reinforce the asphalt concrete whilst the pavement fabric acts to absorb bitumen binder and adhere the new asphalt to the old surface.

The fabric is saturated and bonded to the old surface by spraying a tack coat of polymer modified, or pure bitumen binder over which the fabric is unrolled.

During installation and compaction of the new asphalt overlay the paving fabric absorbs the bitumen tack coat and forms a stress relieving interlayer (SAMI) between the old and new layers. Traffic and heat stress differentials between the layers are reduced and stress effectively transmitted down through the whole pavement structure.

Installation

To install the PGM-G 50/50 pure bitumen binder was sprayed by tanker at the rate of 1.1l/m² along the cracked pavement. The PGM-G was then unrolled by hand over the binder tack coat and brushed into the bitumen. Cross directional cracks were then treated in the same way. Once the whole crack area was treated, asphalt overlay was installed and rolled.

Working within defined periods over the period of one month 20,000m² of Polyfelt PGM-G was installed.

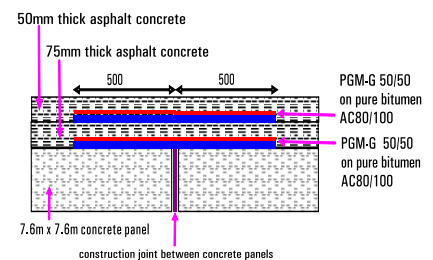


Figure 1: Typical cross section of concrete pavement with Polyfelt PGM-G 50/50 paving fabric.



Figure 2: Installation of PGM-G on longitudinal construction joints.



Figure 3: Overlaying of 50mm thick ACWC on PGM-G 50/50.



Figure 4: Completed runway open for air traffic.

Any values indicated in this document are indicative and corresponded to average values obtained in the accredited testing laboratories and institutes.

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