

EXPERIENCE FROM MORE THEN 30 YEARS OF ASPHALT REINFORCEMENT WITH POLYESTER GRIDS

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ABSTRACT:

Reflective cracking is a well documented and known phenomenon. Without any treatment cracks and/or joints in existing cracked pavement structures will propagate nearly vertical through a new asphalt overlay, creating a reflective pattern similar to the one existing before. The prevention of reflective cracking in pavements has always been an area of concern when designing for asphalt concrete overlays. A very effective system for the delay or even complete arrest of reflective cracking has proven to be Asphalt Reinforcing Geogrids out of Polyester fibres, which have successfully been used for about 35 years now.

Reinforcements have been successfully used in different applications as roads, highways and airports in nearly all climatic conditions. Examples of evaluations in various countries and conditions are given. Also a number of laboratory studies have been performed on reinforced asphalt systems. The goal of most studies was to simulate the actual load condition of a cracked pavement. When a wheel passes a crack the system is stressed dynamically in different modes (bending and shearing) depending on the wheel position. Additionally horizontal movements may occur due to temperature variations. The results of the studies will be summarised. Special attention is also given on the performance on site, such as the installation process, milling of reinforced asphalt and the reuse of recycled reinforced asphalt.

KEY WORDS: Reflective cracking, asphalt reinforcement, polyester, grid, bituminous grid