

FIBRE-DEC : A FIBRE-REINFORCED MEMBRANE TO INHIBIT REFLECTIVE CRACKING

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ABSTRACT

Reflective cracking in bituminous pavements occurs through thermal and traffic induced fatigue, and there are many solutions available to the Maintenance Engineer to prevent or inhibit crack initiation on the road surface.

Much has been written about these causes and solutions, and this review attempts to take into account current thinking, concluding that there is still much confusion about where, when and which type of treatment for reflective cracking should be specified.

Through a summary of market and technical research, this paper reviews the use of stress absorbing membrane interlayer (**SAMIs**) in the U.K and abroad and evaluates the use of a fibre-reinforced membrane as an effective and efficient alternative to conventional geotextiles and geogrids. The system is also suitable for use as a stress absorbing membrane (**SAM**) on the surface of pavements, and this is also discussed.

The fibre-reinforced membrane is manufactured in-situ and spray-applied through specially developed equipment to achieve a continuous, waterproof and flexible mat, capable of inhibiting reflective cracking. The characteristics and technical performance of this membrane are explored. The system is used in several countries around the world in a consistent manner, with consistent results. These findings are detailed further within this paper.

It is concluded that the use of the membrane as described in this report, meets an Engineer's need for a practical, economic and speedy solution to inhibit reflective cracking in bituminous pavements.

KEY WORDS: fibres – reflective cracking – membrane – traffic