

CRACK INHIBITOR SYSTEM

FLEXIPLAST

Keeping the cracks at bay





FLEXIPLAST CRACK INHIBITOR SYSTEM

When overlaying composite materials with flexible asphalt layers, reflective cracking can be a long term issue. Techniques used to avoid these issues must prevent crack propagation over time whilst maintaining inter-layer bonding, structural waterproofing and deformation resisting properties. Flexiplast®, developed by JLUK is one of the few multi-purpose solutions available to provide such characteristics.

► KEY BENEFITS

- Can be applied to **all types of pavements and structures**
- A process suitable for **all types of traffic**
- **Efficient:** can be applied at high outputs
- **Effective:** extends the service life of the pavement

► KEY FIGURES

Approx **3 million m²**
applied to date

20 years
of technical success

► RECOGNISED INNOVATIVE PROCESS

Flexiplast® is a flexible, waterproofing crack inhibitor system aimed to combat reflective cracking, thus extending the service life of the pavement.

The principle of the system is to decouple the overlying flexible pavement from the rigid composite pavement below, whilst keeping an optimum adhesion between both, thus avoiding premature structural fatigue.

The 2-layer system comprises of a polymer-modified bitumen membrane, which is subsequently overlaid with a layer of microsurfacing: this protects the membranes integrity, both thermally and mechanically when being overlaid with hot bituminous materials.

The membranes properties allow it to remain very elastic at low temperatures, a period when the underlying cracks are at their maximum aperture.

► AN UNEQUALLED FLEXIBILITY

Flexiplast® is primarily used to repair cracked pavements. The process is laid at high speed and can be applied to all types of structure, whatever the traffic level.

Flexiplast® is especially recommended for the maintenance of composite pavements using materials treated with hydraulic binders and rigid concrete pavements (slab rocking < 30/100mm).

Flexiplast® extends the service life of pavements by reducing the harmful effects of cracking.

► COMPLEX PERFORMANCE

The first layer of the Flexiplast® complex is a membrane of SBS (Styrene Butadiene Styrene) elastomer-modified bitumen, which has excellent elastic properties and very low thermal sensitivity.

Penetration at 25°C (EN 1426) ≥ 70 MM/10

Ring and ball softening point (EN 1427) $\geq 80^\circ\text{C}$

Fraass breaking point (EN 12593) $\leq -17^\circ\text{C}$

Direct tensile strength at -10°C and 10 mm/min (EN13587)

Ultimate tensile stress ≤ 2 MPa

Ultimate elongation $\leq 400\%$

The membrane is applied hot to a clean dry substrate by means of a sprayer fitted with a heated spray bar. The spread rate is adjusted according to the condition of the substrate, the type of materials in which the cracks were initiated and the local weather conditions.

The member is protected by Gripfibre® microsurfacing.

Gripfibre® is manufactured and laid by a special machine which is equipped with water sprayers to wet the tyres and prevent them from sticking to the membrane.

► AN OUTSTANDING TRACK RECORD

The ability of Flexiplast® to prevent cracking has been determined by the shrinkage bending test at the Laboratoire Régional des Ponts et Chaussées in Autun. The tests show that Flexiplast® has a remarkable ability to slow crack propagation, even at the maximum crack opening allowed by the test equipment (7mm).

Structure	Efficiency
20 mm sand + 60 mm asphaltic concrete	1
Flexiplast® + 60 mm asphaltic concrete	
- with 2 kg/m ² membrane	1.53
- with 3 kg/m ² membrane	2

Flexiplast® samples having undergone the shrinkage-bending test were subjected to tests which proved that the complex retains its waterproofing properties even after cracking of the surface course.

Flexiplast® is a registered trademark.


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