# **MIRAGRID** PGM-B

Hit the road with high modulus basalt fiber

SOLMAX

# THE CHALLENGE

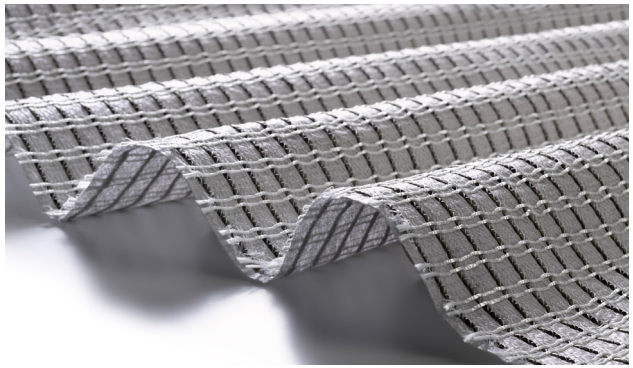
The increasing traffic volume in terms of number of passes, of axle loads as well as changing climatic conditions lead to accelerated deterioration and cracks in pavements.

Conventional maintenance consists in milling part of the asphalt and applying new overlay.

The existing cracks often quickly reflect to the new asphalt surface. The reflective cracking makes local repair necessary or may require replacement of the whole layer system, including binder and even subbase.

# THE OPTIMAL SOLUTION

Solmax Asphalt Interlayer systems prevent or retard the formation of reflective and fatigue cracking, significantly limit deformations, extend the lifespan of road structures, and reduce maintenance costs.



**MIRAGRID** PGM-B

### Bridging longitudinal cracks or joints

In the city of Hellendorn (NL), a 5 cm thick asphalt surface layer was installed above **MIRAGRID®** PGM-B without any problems. Due to the fact that the reinforcing yarns are embedded in the cured emulsion which is softened by the hot asphalt, the bitumen matrix completely surrounds the yarns and provides intimate contact and a perfect composite behavior.

# BASALT FIBER ADVANTAGES

- High strength: up to 200 kN/m
- High Modulus: 89 GPa
- Better chemical resistance
- Better compatibility with bitumen
- Specific strength: 750 MPa/(g/cm$^3$)
- Environmental friendly production: up to 80% less $CO_2$ consumption in comparison with other high strength fibers like glass, steel or carbon
- 100% natural material

# WHY BASALT REINFORCEMENT IN CMD?

- 200 kN/m strength at 1.7% elongation
- Optimum to bridge longitudinal joints
- Reduction of rutting
- Adhesion to Bitumen
- Multifunctionality (STR, B, R) according to EN ISO 15381

# ASPHALT REINFORCEMENT AS A SYSTEM

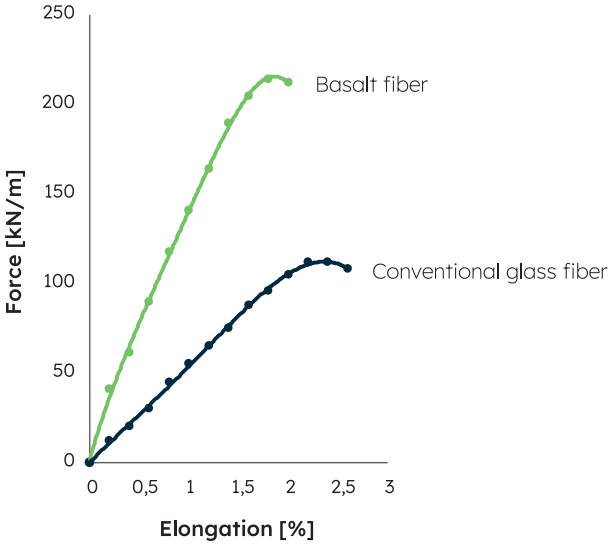
Three forms of crack-delay are described in asphalt constructions in EN 15381 (Geotextiles and geotextile-related products – characteristics required for use in pavements and asphalt). Asphalt interlayer systems secure effective crack retardation by:

- **Reinforcement (R):** By taking up tensile forces when the road structure is loaded, stresses in the layer system are reduced. This is also called the "active" role of the asphalt interlayer.
- **Stress Relief (STR):** The asphalt reinforcement with the applied modified emulsion layer will absorb the stress between the two layers and form an interlayer, allowing for small movements, dissipating peak-stresses and thus preventing crack growth.
- **Barrier (B)**: In addition to the crack retarding properties, **MIRAGRID** PGM-B products also offer a third feature: sealing. The saturation of **MIRAGRID** PGM-B with a sufficient amount of bitumen will create a waterproof layer. Water, road salts, and oxygen cannot penetrate into the underlying structure. This retards the aging of the road layer system.

An asphalt interlayer system is more than just a product that can absorb tensile forces. The interlayer has to co-operate with the surrounding asphalt and the manner of adhesion of the product to the asphalt is essential. Moreover, in many cases, not only the 'reinforcing' function of an asphalt reinforcement is of importance, but also the "stress-spreading", and/or "water resistant" feature.

Any asphalt reinforcement can fulfil its function only in combination with the appropriate bituminous adhesive layer.

Road maintenance often requires different functions in different zones of the road. **MIRAGRID** PGM-B is designed to provide all the three necessary functions in one system in every single profile of the road.




**Basalt fibers: 100% stiffer**

**About us**

Solmax is a world leader in sustainable construction solutions, for civil and environmental infrastructure. Its pioneering products separate, contain, filter, drain and reinforce essential applications in a more sustainable way – making the world a better place. The company was founded in 1981, and has grown through the acquisition of GSE, TenCate and Propex. It is now the largest geosynthetics company in the world, empowered by more than 2,000 talented people. Solmax is headquartered in the province of Quebec, Canada, with subsidiaries and operations across the globe.

**Uncompromised quality**

Our products are manufactured to strict international quality standards. All our products are tested and verified at our dedicated and comprehensive laboratories which maintain numerous accreditations. We offer our partners a wide scope of testing according to published standards to ensure products delivered to sites meet specified quality requirements.

# Let’s build infrastructure better



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