GEOSYNTHETICS

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GLASGRID®

Pavement Reinforcement System

Innovative Products that Lengthen Pavement Life



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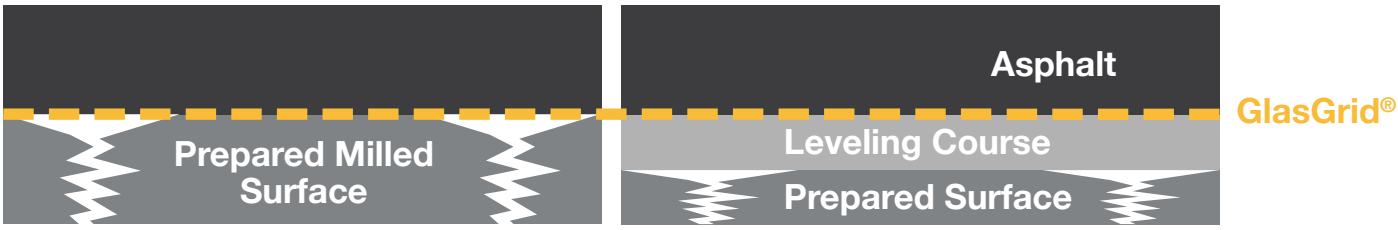
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KAYAPP

SAVE MONEY – AND EXTEND PAVEMENT LIFE BY UP TO 300% – WITH GLASGRID®

Typically, pavement cracking is caused by traffic loading, age hardening and temperature cycling. **GlasGrid®** Paving Reinforcement combines strength and elasticity for long-lasting performance and helps arrest this cycle of deterioration. It's the hidden strength in the road, reducing reflective cracking for years to come.

GlasGrid® works by reinforcing asphalt concrete overlays in pavement construction. The fibreglass grid is "sandwiched" between the levelling and surface courses of asphalt, and is designed to turn crack stresses horizontally and dissipate the stress. **GlasGrid®** helps retard cracking from reflecting through a new asphalt overlay to the surface.



GLASGRID® GG50 8550

Complete Road Reinforcement System

- Full width reinforcement of roadways
- Tensile strength – 50 kN/m x 50 kN/m
- Grid size – 25 mm x 25 mm

GLASGRID® GG100 8511

Complete Road Reinforcement System

- Full width reinforcement of roadways
- Tensile strength – 100 kN/m x 100 kN/m
- Grid size – 25 mm x 25 mm

GLASGRID® GG200 8512

Detail Repair System

- Precision reinforcement for construction joints, concrete joints and major intermittent transverse cracks
- Tensile strength – 100 kN/m x 200 kN/m
- Grid size – 25 mm x 19 mm

Features and Benefits of GlasGrid®

- Lowers maintenance costs
- Repairs severely cracked roads and postpones complete reconstruction
- Dramatically extends the life of roads, runways and parking lots
- Open aperture design promotes aggregate interlock between paving courses, greatly decreasing shear potential that is common with paving fabrics
- High stiffness, high modulus of elasticity, low elongation
- Effective bonding of grid during installation to levelling the prepared surface or course with patented adhesive backing (standard practice of use of tack coat is recommended to enhance or promote bonding between lifts of asphalt layers)
- Ease of constructability allows for **GlasGrid®** installation and immediate placement of overlying pavement

Engineered for Performance

- Superb product engineering in the configuration of fibreglass strands
- The combination of high tensile strength and high modulus of elasticity at low elongation makes **GlasGrid®** stronger than steel

Tested in the Lab, Proven in the Field

- In independent lab tests, **GlasGrid®** has been proven to extend pavement life by up to 300%
- Shown to reduce both thermal and stress-related reflective cracking
- Tens of thousands of successful installations worldwide
- Case studies show positive results in the field as reported by road and airport engineers from around the world

RESULTS FROM THE FIELD: GlasGrid® lowers maintenance costs

GlasGrid® Successfully Passes Rigorous Analysis

The trunk road of the A45 in Billing, United Kingdom, consisted of a PCC pavement overlaid with a thin lift of asphalt. Reflective cracking was adversely affecting PCC joints. If a conventional approach of a thick asphalt overlay was used, there would be lengthy road closures and massive traffic disruption. Pavement analysis results from a falling weight deflectometer test, a 3-D Finite Element Model and ARCDESO software indicated that a **GlasGrid®** and a polymer-modified asphalt option would be viable.



A Fast, Effective Solution for Busy Roads

Extensive longitudinal and transverse cracking caused by an extremely rigid stabilised sub-base was causing problems on Hume Highway and other roads in Wagga Wagga, Australia. These heavily trafficked roads, one reaching the 20,000 Annual Average Daily Traffic (AADT) level, were having significant issues with thermal and fatigue cracking. **GlasGrid®** 8501 self-adhesive reinforcement grid, chosen for its high modulus, tensile strength and low elongation properties, was applied with minimum traffic disruption.



Top Choice at International Airport

Hotel Taxiway's original pavement structure involved 6-metre jointed PCC slabs in a composite pavement with an asphalt wearing course. To reduce maintenance issues involving concrete joints reflecting through the asphalt, **GlasGrid®** has been incorporated into the rehabilitation at the busiest taxiway at the Toronto Pearson International Airport. The Greater Toronto Airport Authority monitored the **GlasGrid®** section's performance against a control section and found that **GlasGrid®** delivered superior, long-lasting performance.



Rehabilitation Problems Overcome by Special Techniques

The very busy M4 Southern Freeway in Durban, South Africa, carries in excess of 57 000 AADT. Rehabilitation of the old but sound pavement structure would have required greater depths of milling but because of the high volumes of day time traffic night shift work was the only option. A lesser depth of milling was designed using a **GlasGrid®** asphalt reinforcement interlayer at localized problem areas to cover wide cracks and to assist with strengthening the new layers over the areas where the greatest distress was evident.



IT'S SIMPLE TO INSTALL

Prepare the Surface

- Complete all crack sealing, pothole filling, base repairs, levelling course applications, etc.
- Surface must be dry, clean and dust-free.
- The road surface temperature must be between 5°C* and 60°C. On asphalt surfaces less than 24 hours old, the surface temperature must be between 5°C and 46°C. Local guidelines should be followed for paving temperature range.

Install GlasGrid®

- Generally, **GlasGrid®** is installed manually. Always make sure the red coloured end of the core is on the right side when positioning the roll for laying. This ensures the placement of the mesh with the self-adhesive side down.
  *Note: **GlasGrid®** can also be installed using customised laydown machinery.
- Roll the laid **GlasGrid®** thoroughly with a PTR (Pneumatic Tyred Roller).
- Apply tack coat after rolling.

Pave

- The surface course of asphalt can be placed immediately after **GlasGrid®** is installed. There are no disruptions or delays to normal paving operations.
- Minimum 40 mm compacted overlay is required.
- Minimum 75-150 mm overlap is required at end of roll joints. Minimum 25-50 mm overlap is required for longitudinal joints.

NOTE: For complete installation directions, please consult your Kaytech representative. *All values are nominal.

ABOUT THE MANUFACTURER

GlasGrid® is manufactured by Saint-Gobain ADFORS. Saint-Gobain ADFORS is a global company within the Innovative Materials Branch of Compagnie de Saint-Gobain. They are an industry leader in the manufacture and distribution of a wide range of reinforcement fabrics and offer a diverse selection of products, including some of the world's best-known reinforcement brand names.

Their worldwide manufacturing plants ensure reliability, quality and cost-effective material supply, while their research facilities and global sales offices deliver world-class service.

Kaytech has been the distributor of **GlasGrid®** in Southern Africa since 1998.



ASPHALT MIX CONSIDERATIONS

Asphalt mix varies by region and by country. **GlasGrid®** has been designed for use with conventional hot asphalt mixes that are placed with proper compaction to at least 97% of bulk relative density or at least 93% of maximum relative density. Asphalt must meet the local surface course hot mix specification for heavy traffic (high AADT) conditions, with sufficient stability and durability to carry traffic loadings and withstand temperature changes. The asphalt mix must be designed according to established design methods like:

a) Marshall method, to achieve stability of at least 8000 Newtons or,

b) Superpave method for surface course hot mix asphalt subject to heavy traffic conditions, incorporating aggregates and bitumen.

When using any specialized mixes or additives in specialised mixes or additives in asphalt mixes with **GlasGrid®**, please contact Kaytech for detailed technical guidance.







Saint-Gobain ADFORS / Kaytech have no control over installation design, installation workmanship, accessory materials, or conditions of application. Saint-Gobain ADFORS / Kaytech do not warrant, with respect to the installation or use of the product or of any final product into which the product may be incorporated by the purchaser and/or user, the performance or results of any such installation or use.

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The purchaser and/or user should perform its own tests to determine the suitability and fitness of the product for the particular purpose desired in any given situation.

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ADFORS SAINT-GOBAIN

***GlasGrid®** products are manufactured at an ISO 9001:2008 registered facility of Saint-Gobain ADFORS. **GlasGrid®** is a registered trademark of SAINT-GOBAIN ADFORS. U.S. Patent 5393559. Canadian Patent 1240873/1338347. European Patents WO 2009/021040, WO 2009/021046, WO 2009/021051. Japanese Patent 2611064. Additional patents pending. South African trademark No. 2009 / 20073*

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