The Economical Solution

- When asphalt pavement cracks, water permeates the base and reduces the life of a road.
  - Improving the asphalt’s natural ability to resist cracks improves the drainage capabilities of a road and the Federal Highway Administration (FHWA) suggests by doing this a road’s life can be extended.
- GlasGrid improves asphalt’s natural ability to reduce cracking by up to 3 times by providing a tensile element to the asphalt. This helps keep water out of the base and improves the drainage capabilities of a road by 20%.

Based on 25+ years of successful installations around the world, GlasGrid typically provides a 50% reduction in future maintenance costs (e.g., maintenance, rehabilitation and use costs) over the life of an average road.

Future Life Cycle Costs

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

Our worldwide manufacturing plants ensure reliability, quality and cost-effective material supply, while our research facilities and global sales offices deliver world class service. We are committed to providing innovative solutions to your challenges and to developing breakthrough products.

Asphalt Concrete Mix Considerations

Asphalt concrete (AC) mix series by country and by region. GlasGrid has been designed for use with conventional hot asphalt mix placed with proper compaction to at least 97% of bulk relative density or at least 90% of maximum relative density. AC mix 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 with elevated temperature changes. The AC mix must be designed according to: a) a Geometric method (Asphalt Institute Manual MS-2); to achieve stability of at least 9000 repetitions (1400 E ≈ 1 MPa) and 0% shrinkage (Asphalt Institute Manual MS-2) for surface course hot mix asphalt subject to heavy traffic conditions, incorporating aggregates and asphalt cement. When using any specialized mixes in addition to AC mix with GlasGrid, please contact Saint-Gobain ADFORS for detailed technical guidance.

Learn more about how GlasGrid Pavement Reinforcement System products can increase the life of your paving projects:

adfors.cz@saint-gobain.com
www.glasgrid.com

Saint-Gobain ADFORS
World-class capabilities. Worldwide reach.
Our Products
Installation on milled surface and leveling course

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<tr>
<th>Product</th>
<th>Characteristics</th>
<th>Applications</th>
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<tr>
<td>GLASGRID CO</td>
<td>Self-adhesive backing</td>
<td>Airports, Highways and roads, Parking lots</td>
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<tr>
<td>GLASGRID IM</td>
<td>Patented, highly engineered tack film, Easy visibility during milling process, Protective indicator layer for bridge decks</td>
<td>Bridges</td>
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<tr>
<td>GLASGRID TF</td>
<td>Fluorescent orange self-adhesive reinforcing mesh, Effective moisture barrier, Quick and efficient installation</td>
<td>Airports, Highways and roads, Industrial parts, Parking lots</td>
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<tr>
<td>GLASGRID GG</td>
<td>Fluorescent orange self-adhesive reinforcing mesh, Effective moisture barrier, Quick and efficient installation</td>
<td>Airports, Highways and roads, Industrial parts, Parking lots</td>
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<tr>
<td>GLASGRID GP</td>
<td>Self-adhesive repair ring for asphalt areas around any iron works, Effective moisture barrier</td>
<td>Detail repair, Sidewalk covers</td>
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Installation of milled surface and leveling course

1. Effective moisture barrier
2. Composite product contains Fiberglass grid coated with polymerized asphalt and a non-woven fabric layer
3. Provision of a unique high strength Fiberglass grid embedded between two lightweight polyethylene geotextiles
4. Quick and efficient installation due to self-adhesive bitumen layer
5. Self-adhesive repair ring for asphalt areas around any iron works

Our Solution
Retard reflective cracking with GlasGrid® pavement reinforcement

GlasGrid turns crack stresses horizontally and dissipates the stress.

Your Problem
Cracks in asphalt surfaces

Issue:
- Increased traffic loading
- Huge temperature cycling
- Age hardening

Results:
- Reduces pavement life
- Higher risk of accidents
- Erosion of vehicle parts
- Potholes due to severe cracking

Our Solution
Retard reflective cracking with GlasGrid® pavement reinforcement

GlasGrid turns crack stresses horizontally and dissipates the stress.

Tested in the lab, proven in the field

4-point Bending Flexural Fatigue Test

This bending fatigue test was used to assess the flexural resistance of a GlasGrid reinforced pavement structure. A slab reinforced test beam was subjected to a nominal load of 24kN and a fatigue test was conducted at a frequency of 4 Hz with varying amplitude of +/- 4kN. The results indicated flexural pavement improvement of the pavement up to 500% for GlasGrid TF, lowering maintenance costs significantly.

The Leutner Shear Test – RWTH Aachen University

The Leutner Shear Test was used to conclude that GlasGrid reinforcements coated with our patented polymeric coating provide a highly effective interlock between asphalt layers. GlasGrid reinforced asphalt reached a test value higher than the minimum requirement of 15N.

Milling Performance and Recyclability – RWTH Aachen University

In this study, a 200kN/m glass fiber grid was installed on an existing binder course and covered with a thin top layer. After the milling process, no adverse effects were noticed and milling depth was not affected. A second test, the Cycling Tension test, concluded that the partial reuse of road asphalt generated (including glass fiber) in a new asphalt mixture improved the results of the recycled asphalt.

More international testing

- Reinforcing Fiberglass Grids for Asphalt Overlays, Yeh, B. L., Texas A&M University, 1988
- Reinforcing, Compaction Design of (Beaded) Asphalt pavements, D. Breda, Jr., M. E. Davis, Michigan Department of Transportation, 1985
- Study of Reinforced Asphalt Pavement Use for Road Construction, ADFORS, 2001
- Characterization of Reinforced Asphalt Pavement: Cutting Material Using Thermal Analysis, Teodoli, G. and Romito, F., University of Roma, 2002
- Reinforcing Fiberglass Grids for Asphalt Overlays, Lytton, R. L., Texas A&M University, 1988
- Characterization of Reinforced Asphalt Pavement: Cutting Material Using Thermal Analysis, Teodoli, G. and Romito, F., University of Roma, 2002
- Reinforcing Fiberglass Grids for Asphalt Overlays, Lytton, R. L., Texas A&M University, 1988
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