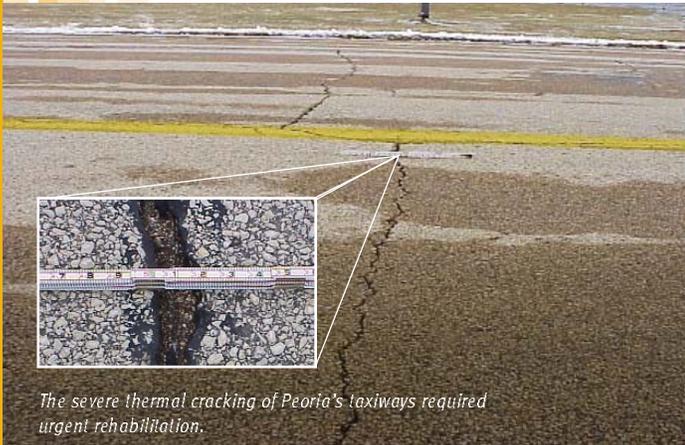




## GREATER PEORIA REGIONAL AIRPORT PEORIA, ILLINOIS

**Application:** The Greater Peoria Regional Airport is a connecting hub for major airports throughout the Midwest and the South. In 2000, the airport authority began investigating options for rehabilitating the facility's Echo Taxiway using interlayers to improve surface performance.



*The severe thermal cracking of Peoria's taxiways required urgent rehabilitation.*

**The Challenge:** The combination of inclement weather and commercial traffic was leading to the degradation of the airport's taxiways. Earlier attempts to rehabilitate the problem areas with asphalt overlays had proved unsuccessful. The standard pavement life was limited to approximately 7 years mainly due to thermal reflective cracking.

**Site Conditions:** Peoria's highest recorded average monthly temperature is 86°F, while the lowest is 16°F in January. The airport's taxiways suffered from block cracks, high severity transverse thermal cracks and construction related longitudinal cracks. Further surface degradation was likely to affect aircraft movement and safety.

**Alternative Solutions:** Due to the severity of the problems associated with this project (1–2 in. wide thermal cracks at approximately 100 ft intervals), three possible solutions were considered:

1. Full-depth reconstruction of the pavement.
2. Use of a significantly thicker overlay may have provided an additional period before major rehabilitation; however, the elevated grades at intersections would have been a problem.
3. Full depth milling and patching.

**Solution:** Ultimately, the GlasGrid® System was chosen for the taxiway rehabilitation. The process began by cold planing the entire pavement area by 2 in. This was followed with additional localized 2 in. deep and 4 ft wide transverse planing over the areas exhibiting major distress. These void areas were then filled with a specialized "SAMI" type mix containing fine aggregate and 0.83% polymer-modified asphalt cement, with GlasGrid 8502 located between this layer and the main asphalt layer. The wearing course consisted of 4.5 to 6 in. of P401 ACC mix.

### PROJECT HIGHLIGHTS

**Project:**

Greater Peoria Regional Airport

**Location:**

Peoria, Illinois

**Installation:**

November 2001

**Product/System:**

GlasGrid 8502, GlasGrid Pavement Reinforcement System

**Owner/Developer:**

Greater Peoria Regional Airport Authority

**Design Engineer:**

Illinois Department of Transportation

**Distributor/Licensee:**

Meredith Brothers, Inc.



## REINFORCED ASPHALT OVERLAY

CASE STUDY

To evaluate the performance of this treatment, instrumentation was installed and monitored by the University of Illinois at Urbana-Champaign. Analysis of the data and a follow-up field survey in 2007 indicated that the “rehab strategy” of including the GlasGrid System is delivering very good or excellent performance. Following 6 years of service, less than 10% of the severe transverse cracks have reflected through to the surface.

**System Advantage:** Introduced in 1989, the GlasGrid System consists of stiff, environmentally friendly, fiberglass material coated with an elastomeric polymer. The grid is rolled out over a thin leveling course placed before the main asphalt overlay. With its pressure-sensitive, adhesive backing, installation of the GlasGrid mesh for reinforcement is easy and generally considered the most expedient installed interlayer system available. The GlasGrid System has been successfully used within asphalt overlays throughout the world to combat reflective cracking initiated by one or more of the following:

- Concrete pavement longitudinal and transverse joints
- Thermal loading
- Lane widening
- Cement treated or stabilized layer shrinkage cracks
- Block cracks
- Asphalt construction joints



*A follow up field survey in 2007 showed the GlasGrid repairs were performing to a high standard.*

### Additional Information and Services:

Tensar International Corporation, the leader in geosynthetic soil reinforcement, offers systems for improving structures such as roadways, railroads, construction platforms and parking lots. Our products and technologies, backed by the most thorough quality assurance practices, are at the forefront of the industry. Highly adaptable, cost-effective and installation-friendly, they provide exceptional, long-term performance under the most demanding conditions. Our support services include site evaluation, design consulting and site construction assistance.

For innovative solutions to your engineering challenges, rely on the experience, resources and expertise that have set the industry standard for more than two decades.

For more information on the GlasGrid System or other Tensar Systems, call **800-TENSAR-1**, e-mail [info@tensarcorp.com](mailto:info@tensarcorp.com) or visit [www.tensar-international.com](http://www.tensar-international.com).

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