



CASE STUDY

**HUALIEN AIRPORT  
HUALIEN COUNTY, TAIWAN R.O.C.**

**Application:** Rehabilitation of runway damaged by extensive longitudinal and transverse pavement cracking.

**The Challenge:** Hualien Airport, a regional facility built in 1962 on Taiwan’s eastern coast, serves both commercial and military aircraft. The airport experienced significant growth through the 1990s, with arrivals and departures increasing by up to 25% per year. In its efforts to develop the region’s economy, the Republic of China’s (R.O.C.) Ministry of Transportation and Communication



*The GlasGrid System was installed over the entire length and width of the runway.*

tasked the Civil Aeronautics Administration with overall airport improvements.

**Site Conditions:** Runway 03/21, measuring 148 feet wide and 9,383 feet in length, was severely distressed with extensive longitudinal and transverse cracking. Crack depths ranged from 6 to 15 inches. With its coastal location, the airport operated in a climate of high temperatures and humidity.

**Alternative Solutions:** Pavement reinforcement fabrics had shown little success in retarding cracks in the past. In addition, a taxiway resurfaced with a five-inch thick layer of modified asphalt a year earlier, experienced joint reflective cracking rapidly – even during construction.

**The Solution:** The GlasGrid® Pavement Reinforcement System was installed over the entire width and length (excluding two landing areas) of Runway 03/21. GlasGrid 8501 was placed over a two-inch thick leveling course and topped with a pair of two-inch thick surface course layers. A tack coat was applied to ensure maximum bonding between asphalt layers. A total of 101,660 square yards of the GlasGrid System was used.

**PROJECT HIGHLIGHTS**

**Project:**  
Hualien Airport (Runway 03/21)

**Location:**  
Hualien County, Taiwan R.O.C.

**Installation:**  
May – September 1998

**Product/System:**  
GlasGrid Pavement Reinforcement System

**Quantity:**  
101,660 sq yds of GlasGrid 8501

**Transportation Authority:**  
R.O.C. Civil Aeronautics Administration

**Consulting Engineer:**  
T.Y. Lin Engineering Consultant, Inc.

**Contractors:**  
East-Country Construction Co., Ltd.  
Trendy Well Co., Ltd.



## AIRPORT APPLICATION JOINT CRACKING

CASE STUDY

**Results:** Since the runway's rehabilitation in 1998, no joint reflective cracking has been detected, and pilots have continuously reported favorable conditions. Officials credit the GlasGrid System as key to the runway's sustained performance and cite the system's efficiency, speed of installation and cost effectiveness.

**The GlasGrid System Advantage:** Introduced in 1989, the GlasGrid System consists of stiff, environmentally friendly fiberglass material



*Officials credit the GlasGrid System as key to the runway's sustained performance.*

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 back, installation of the GlasGrid System is easy and fast. It is generally considered the most expedient 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

### **Additional Information and Services:**

Tensar International Corporation, the leader in geosynthetic soil reinforcement, offers a variety of solutions for foundation and roadway projects. 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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