



## City of Westlake Resurfacing Westlake, Ohio

**APPLICATION:** The City of Westlake, Ohio, used the GlasPave 50™ Paving Mat, a hybrid geosynthetic paving material made of fiberglass mesh embedded into high-performance polyester mats, to resurface concrete streets in various neighborhoods around the area.

**THE CHALLENGE:** Due to reflective cracking, concrete streets with asphalt overlays tend to have a short service life, 10 years or less, and expensive pavement maintenance afterwards. The challenge was to increase the life cycle of resurfaced streets and decrease the maintenance costs by reducing the number of joint repairs, reinforcing the resurfaced asphalt and waterproofing the pavement. The City of Westlake's 20-foot wide concrete streets featured centerline and transverse joints every 25 feet that were randomly failing.



The GlasPave 50 wide-width rolls allow faster installation that can result in a savings on labor costs.

"We always had to come through and remove the bad joints and then do a full-depth concrete repair and then do an asphalt overlay. It was very costly," said Robert Kelly, Director of Engineering for the City of Westlake. "We were looking to do some value engineering so we didn't have to do so much concrete joint repair."

**SITE CONDITIONS:** The streets in the various Westlake subdivisions had old, deteriorated concrete pavement and many joints and broken slabs in need of repair before resurfacing. The worse the condition of the joints, the more expensive the repairs required prior to resurfacing.

**ALTERNATIVE SOLUTIONS:** Conventional resurfacing without any reinforcement had not yielded favorable, long-term results. "If we overlaid those streets without doing any joint repair, we'd immediately get a reflective crack from the concrete up through the asphalt within the first six months to a year," said Kelly, who estimated that standard full-depth concrete repair cost \$70 per square yard versus the \$7 to \$10 per square yard for the repair using the GlasPave 50 product. And that doesn't factor in the expense of future remedial measures on deteriorated joints.

**THE SOLUTION:** Using GlasPave 50, the project team could mill off some of the top surface of the street, clean the joints, proof-roll the street to ensure structural integrity and top-coat the surface without worrying about reflective cracks throughout the whole development. The technology from Tensar also waterproofed the pavement, which decreased the effect of freeze-thaw cycles and thermal pavement damage.

### PROJECT HIGHLIGHTS

**Project:**

Various resurfacing projects

**Location:**

Westlake, Ohio

**Installation:**

2009 - 2011

**Product/System:**

GlasPave50

**Owner/Developer:**

City of Westlake, Ohio

**Engineer:**

City of Westlake  
Engineering Department

**Distributor:**

Meredith Brothers, Inc.

**Sub Contractor:**

PS Construction Fabrics

**Product Manufacturer:**

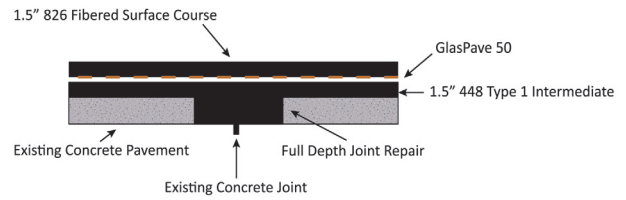
Saint-Gobain - ADFORS

"We probably ended up saving 25% if not more on the overall construction cost and got a better finished product by using GlasPave 50," Kelly said. "It has become a valuable tool in our road maintenance program. We could not be happier with the money saved, the construction project speeds up, the road is not torn up as much, the finished project is better and the long-term maintenance of the roadway is reduced. The product is one of the best new engineered pavement technologies that I've seen come out in the last 20 years."

**THE GLASPAVE ADVANTAGE:** The fiberglass matrix in a GlasPave paving mat provides significantly greater tensile strength at low strain when compared to conventional paving fabrics and other paving mats. This helps extend pavement life, even in the harshest environments, by delaying reflective cracking, which is a common contributor to costly repairs and the eventual failure of asphalt overlay applications. Also, the non-woven matrix structure of GlasPave allows for an asphalt binder to penetrate and fill voids within the fabric to limit moisture infiltration into the pavement. The distinctive design facilitates a quick and strong bond with a variety of tack coats.



*GlasPave Paving Mats feature a thinner yet durable material that requires less tack coat during the installation process than other paving mats. Often times, the amount of required tack coat can be reduced by half!*



*A proposed pavement cross-section from the Westlake project using GlasPave 50 Paving Mats.*

The stiff fiberglass allows for easy, trouble-free milling for asphalt rehabilitation, with no impact on the recycling of asphalt for future projects. Recent testing at the National Center for Asphalt Technology (NCAT) demonstrated that an asphalt mix containing 30% recycled asphalt pavement (RAP) with GlasPave fibers performed as well as RAP without GlasPave fibers.

**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.

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 GlasPave Waterproofing Paving Mat or other Tensar Systems, call 800-TENSAR-1, email [info@tensarcorp.com](mailto:info@tensarcorp.com) or visit [www.tensarcorp.com](http://www.tensarcorp.com)**

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