

A COMPARISON OF GLASPAVE®25 & TRUPAVE®

It can be very confusing when looking at different fiberglass paving mats in the marketplace. Although they may appear to have similar physical properties when comparing technical data sheets it is important to have an understanding of the composition and performance of these very different products.

The GlasGrid® / GlasPave® family of products has been around for many years and is manufactured by Saint-Gobain, a company with over 350 years of history and experience. Saint-Gobain has been performing research and testing on these product lines for over 30 years, with continuous improvement and innovation of various components to validate all claims prior to selling and placing products in the market. This is what provides engineers with confidence in the performance and reduced life-cycle cost impact of the GlasGrid/GlasPave family of products.

GlasPave has been manufactured in the USA since 2007, with millions of square yards installed every year. It is a high-performance fiberglass paving mat that provides high-tensile strength at low strain. GlasPave is coated with an elastomeric polymer that bonds the individual glass fibers together, ensuring that they work in unison to maximize the tensile strength, as well as ensuring superior reinforcing and crack delay performance. The elastomeric polymer-coated matrix structure of GlasPave25 allows for stronger bonding compared to uncoated interlayers as the asphalt binder fully penetrates and fill voids within the mat, which limits moisture infiltration into the pavement structure (i.e.: waterproofing). This combination of strength and waterproofing helps dramatically extend pavement life by delaying reflective cracking.

TruPave® manufactured by Owens Corning is a non-woven pavement interlayer composed of chopped fiberglass and polyester fibers.



SIDE BY SIDE COMPARISON

TruPave vs GlasPave25		
PROPERTY	VALUE	
	TRUPEAVE	GLASPAVE
Nominal Weight (oz/yd ²)	4.0	4.0
Min. Tensile Strength (kN/m)	3.9	25.0
Tensile retention after installation	Risk of tensile loss	No tensile loss
Max. Elongation at Break (%)	5.0	5.0
Min. Melt Point (F)	>450° F	>450° F
Composition	Wet Chop	Continuous Strand
Dimensional Stability	Wet Chop	Continuous Strand
Safety/Environmental Concern	PPE needed for flying fibers	No PPE needed for flying fibers
Min. Asphalt Retention (gal/yd ²)	0.18	0.10
Water Permeability (1 x 10 ⁻⁶ or less)	2.6 x 10 ⁻¹¹	2.8 x 10 ⁻¹¹
Min. Application Rate (gal/yd ²) (Dependent of road surface condition)	.18+	.10+
Millable	Yes	Yes
Recyclable without screening	Maybe	Yes
30% RAP including Interlayer – TSR Test	No	AASHTO T283-07 No loss of performance relative to control



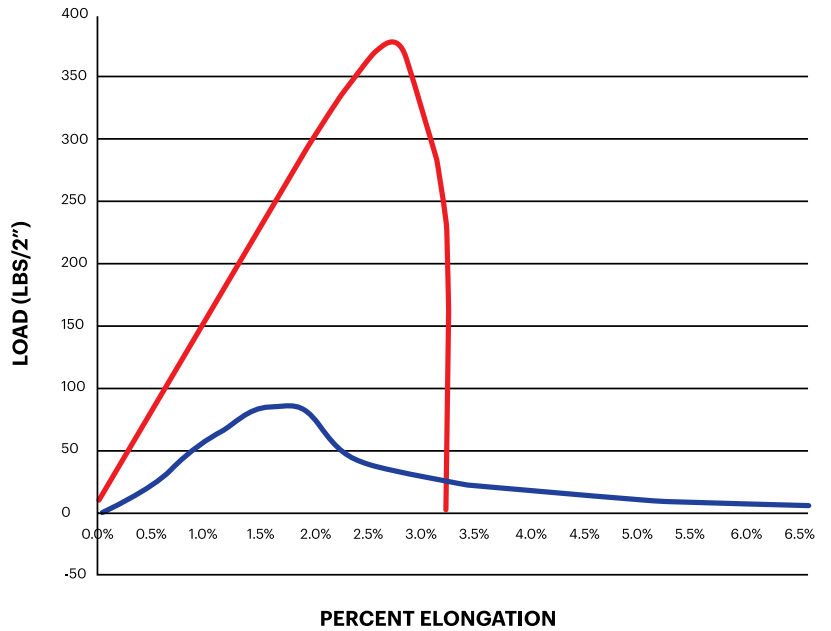
THERE ARE SEVERAL WAYS IN WHICH GLASPAVE25 IS ADVANTAGED

1. TENSILE STRENGTH

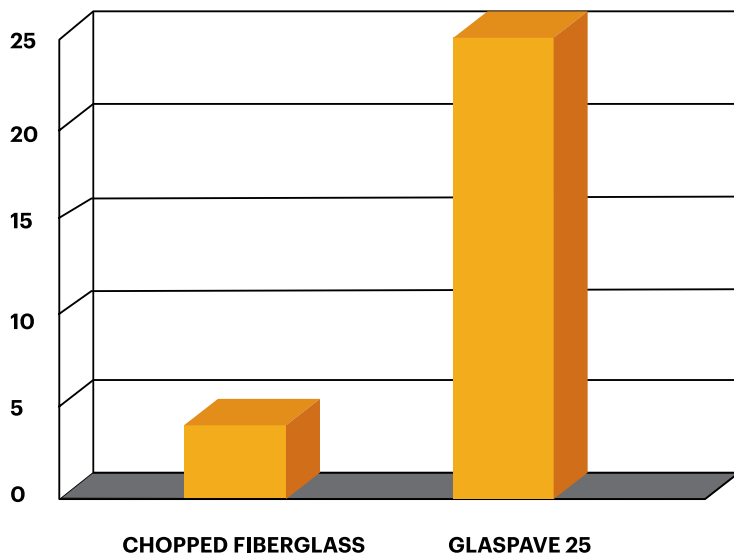
- 6x stronger than standard paving mats
- Greater tensile strength at low strain results in pavement life extension by delaying reflective cracking.
- 3x tensile strength at 2% strain - Asphalt cracks at low strain

█ GlasPave
█ TruPave

LOAD VS ELONGATION CURVES USING ASTM D5035



TENSILE STRENGTH @3%



2. ASPHALT RETENTION

- GlasPave25 Absorbs 0.45 L/m² (0.10 gal/yd²) of liquid asphalt binder
- Chopped fiberglass mats absorb 0.80 L/m² (0.18 gal/yd²)
- This results in significant asphalt binder savings to the contractor and lower carbon emissions

3. CONSTRUCTABILITY

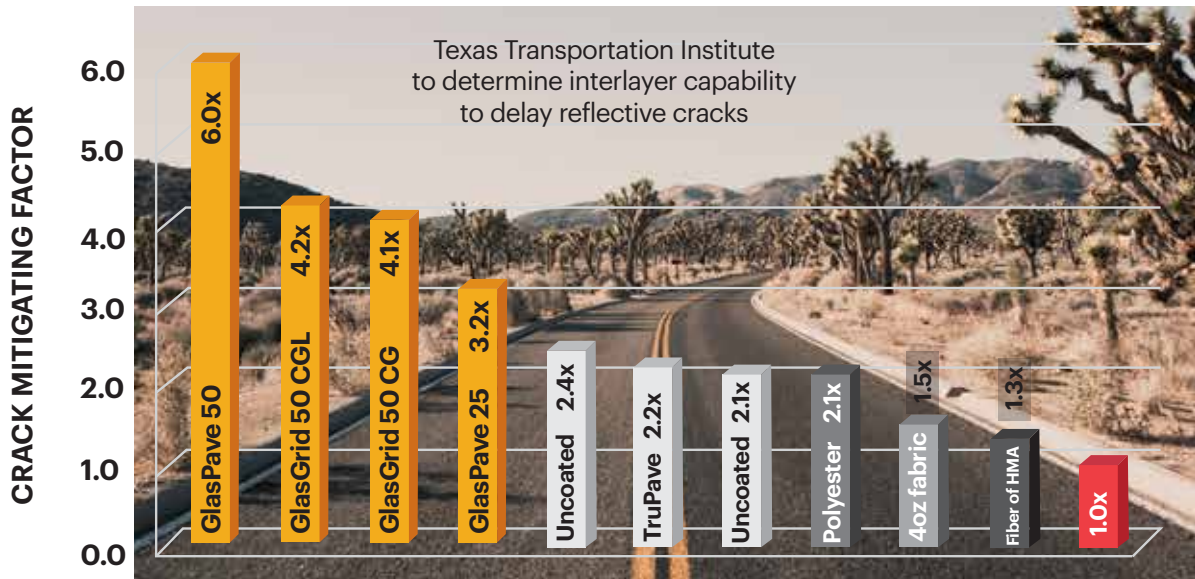
- GlasPave25 cannot be pulled apart by hand. More durable and less prone to installation damage.
- Glass fibers are pre-coated with a high temperature elastomeric polymer coating and confined within the two mat layers, eliminating fiber fly and the need for additional special protective equipment during installation.

4. MAXIMUM CRACK REDUCTION

To demonstrate and quantify these benefits, various products, including GlasPave 25 paving mat, have been included in the Texas Transportation Institute's (TTI) overlay fracture performance study. An overview of this study is enclosed for your review. The TTI testing captures the stress and strain improvement provided by interlayers and allows for the calculation of an interlayer products ability to resist reflective cracking. The CMF (Crack Mitigating) Factor quantifies the combined improvement of the reinforced asphalt vs. unreinforced asphalt in terms of dealing with both stresses and strains.

The results of the testing, which are summarized in the table below, indicate that GlasPave25 delays reflective cracking up to 3.2 times longer than asphalt with no interlayer materials compared to 2.2 times for TruPave.

PAVEMENTS ABILITY TO RESIST CRACKS



Tensile (kN/m)	50	50	50	25	50	3.9	3.0	50	1	Min	No Interlayer
% Elongation	<5	<5	<5	<5	<5	<5	<5	>12	>50	∞	
Type	PM	CG	CG	PM	CG	PM	CG	CG		Fibers	
Elastometric	Coated Glass			Uncoated Glass			Polyest		Mix Add		

PM = Paving Mat CG = Composite Grid