



Superior Asphalt Performance



ACE XP™ vs Paving Fabrics

You owe it to yourself to try something new and
save time and money*

SURFACE TECH™

WWW.SURFACE-TECH.COM



ACE XP™ vs Paving Fabrics

The advent of Surface Tech's new ACE XP™ pavement overlay solution utilizes one of the strongest man-made fibers in existence — para-aramid. ACE XP™ in a hot-mix, hot-laid overlay application can go head-to-head with typical fabric applications in terms of cost. But in terms of performance, ACE XP™ comes out on top. It's faster and easier to apply and more effective in reducing cracks.

Comparing ACE XP™ to commonly used paving fabrics generates two main considerations:

- » **Crack resistance and life cycle performance**
- » **Constructability differences**



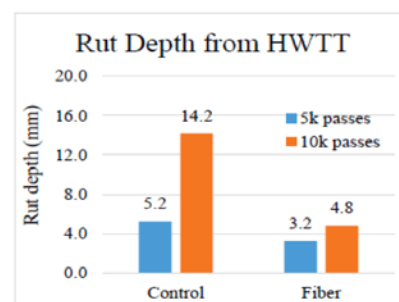
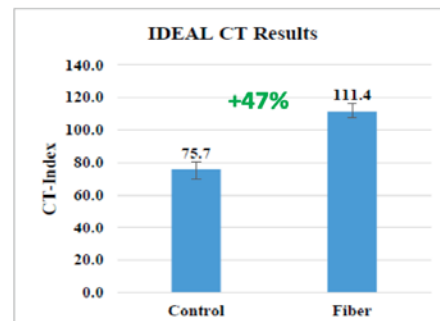
Paving fabrics generally claim to create a stress-absorbing interlayer that slows the progress of reflective cracking in asphalt pavements and doubles the road service life. The claims further point out how paving fabrics save \$50 per lane mile by replacing 1.5 inches of asphalt. However, validation of these claims can be difficult to find.

Paving fabrics — where's the back-up data on performance?



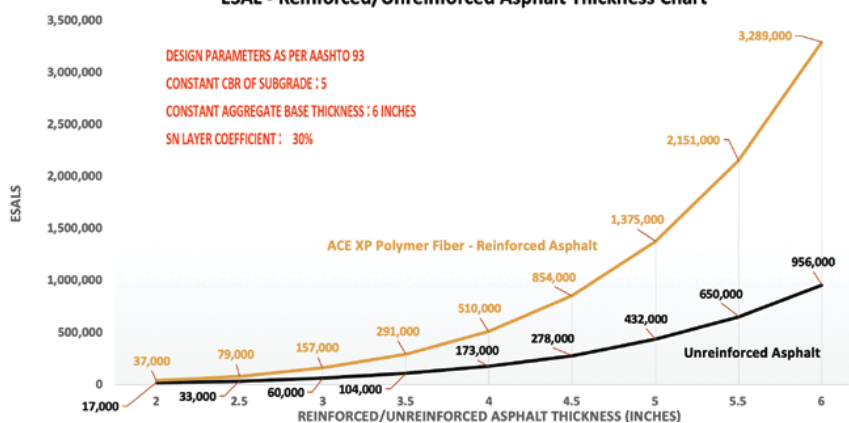
Compare the general lack of data about paving fabrics with verified data regarding ACE XP™:

- » ACE XP™ adds 30% - 50% to the crack and rutting resistance of any asphalt mix per dose. (IDEAL CT and HWTT)
- » On a test project for MoDOT last year, Mizzou Asphalt Pavement and Innovation Lab (MAPIL) measured a 47% increase in IDEAL CT score.
- » In the MoDOT trial referenced to the right, MAPIL measured a 66% increase in rut resistance on the rural highway mix.
- » In the Bending Beam Fatigue test, performed by the University of California Pavement Research Center (UCPRC), ACE XP™ added 200% to the crack resistance of PG64-22 mix at 900 micro-strains making it a better choice for portland cement concrete (PCC) asphalt overlays.



ACE XP™ doubles the ESAL performance of any asphalt thickness.

ESAL - Reinforced/Unreinforced Asphalt Thickness Chart



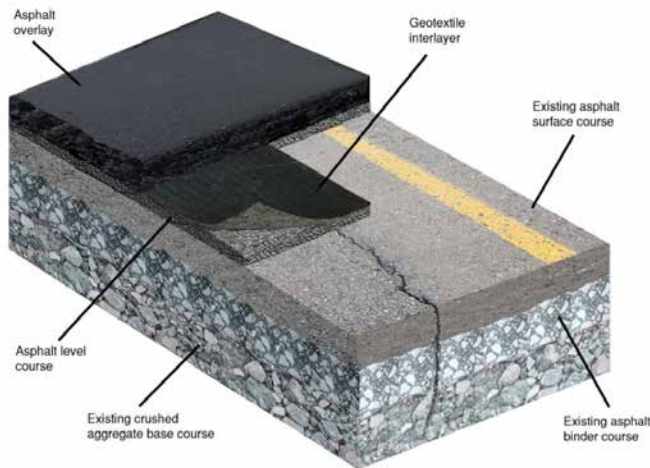
Further performance measures have found:

- » In a series of in-place tests, ACE XP™ added 150% to the elastic modulus of commercial mix. When computed to a structural number layer coefficient (SN), ACE XP™ showed a 40% improvement. A 30% improvement is typically used for design and shown in the chart above.
- » That means, a 2.5" overlay with ACE XP™ will perform as 3.5" overlay of standard mix.
- » As thickness increases, a 4" overlay with ACE XP™ will perform as a 5.6" overlay of standard mix.



With all paving fabrics, the process is similar.

- » Sub-contractors generally install paving fabrics. Scheduling and timeliness are often sacrificed working with third party vendors.
- » Installation is risky. Folds, tack issues, wind construction traffic can ruin product performance.
- » Paving grids often require a leveling course, adding additional scheduling and costs.
- » Specialized equipment and third party vendors are expensive and required on most jobs.



Specialized equipment and third party vendors required for most jobs.

STORAGE



Geotextile rolls must be stored off the ground and adequately covered to protect them.

SURFACE PREPARATION



The paving fabric is placed over a leveling course, which is done the previous day to allow the roadway to cool prior to applying the sealant and paving fabric.

FABRIC INSTALL



The paving fabric distributor truck sprays PG 64-22 sealant followed by placement of the paving fabric by the spreader/broom tractor unit.

PAVEMENT OVERLAY



9.5-mm hot-mix asphalt is placed over the paving fabric.



From a constructability perspective, ACE XP™ has several advantages over any rolled interlayer.

- » Constructability matters. ACE XP™ is the better way.
- » ACE XP™ is the sustainable choice for long-term pavement owners. ACE XP™ is fully recyclable, paving fabrics are not adding disposal cost to your next project.
- » ACE XP™ is a value. No additional installation cost.
- » ACE XP™ turns regular asphalt into a high-performance overlay, done faster and with less risk. Since the ACE XP™ normally costs the same or less than installed paving fabrics, the only remaining question in your mind should be, "Why haven't I tried it?"

For easy installation and proven performance — ACE XP™ delivers

"We've had a lot of success with ACE XP™ in overlays, because once contractors use it, they love it. It's a faster install, more crack resistant, and as a plant mix product, there's no need for third party contractors so all the job profit stays in-house."

Michael Scardina
Regional Sales Director, Surface Tech

ACE XP Polymer Fiber™ extends pavement service life by dramatically improving the dynamic modulus of the asphalt layer and increasing the asphalt's resistance to cracking and rutting (distresses that may cause premature failure). To create ACE XP Polymer Fiber™, high-strength man-made "aromatic polyamide" or Para-Aramid Fibers are bundled and coated with Sasobit® wax to create an asphalt concrete additive that is simple to mix with any WMA or HMA in through a drum and or batch asphalt operation. The 3-dimensional reinforcement throughout the asphalt layer increases the asphalt's resistance to cracking, rutting, and fatigue while providing improved ESAL (Equivalent Single Axle Load) capacity.



Aramid Fiber
(2.1 to 4.2 ounces/ton)



Sasobit® Wax
(1.3 to 2.6 ounces/ton)



ACE XP Polymer Fiber™
(3.4 to 6.8 ounces/ton)

	ACE XP®	PAVING FABRICS
TESTED PERFORMANCE	✓	
CRACK RESISTANCE	✓	✓
RUT RESISTANCE	✓	
IMPROVED ESAL PERFORMANCE	✓	
EASE OF INSTALLATION	✓	
NO SPECIAL EQUIPMENT	✓	
RECYCLABLE	✓	

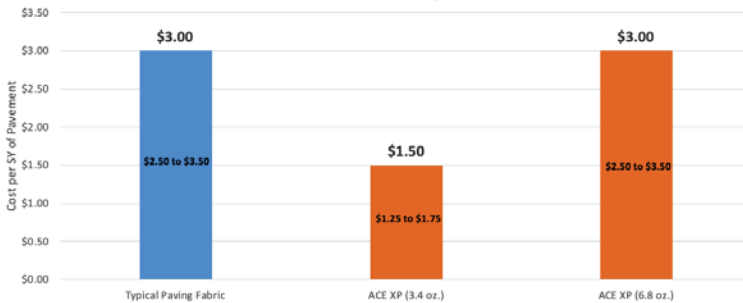
*** CASE STUDY**

A contractor quotes a large condo complex HOA a 3-phase/year project with highly distressed pavement. Paving fabric was quoted at \$10/SY because the facility had a tricky layout and required a third party install. Upon choosing the ACE XP™ option, the paving contractor was able to charge their customer \$4/SY. The paver was able to save money, manage risk, and meet the schedule while providing a better crack resistant product.

You owe it to yourself, your projects, and your team to use ACE XP™.

Cost Comparison of 2” Overlay

ACE XP vs Paving Fabric



Our department is well versed on the crack-resistant benefits of ACE XP™ and how it can add years of life to roadways, thus reducing the cost of more frequent replacements. Public works officials plan to utilize the product throughout 2020 and beyond.

Brandon Milar, CalAPA Technical Director

ACE XP™ is a sustainable and cost effective additive that enhances asphalt concrete performance.



I have been adding ACE XP™ to the plant since 2015. It is easy to use and just works, Louisville Metro is sold on the cracking performance increase of pavement reinforced with ACE XP Polymer Fiber™.

Jordan Sandquist, PE,
QA/QC Manager – Hall Paving, Louisville, KY

SURFACE TECH™

Our innovative processes, technologies and products make asphalt pavements better, stronger and longer-lasting. Extensive research and development, laboratory testing and field trials have proven the Surface Tech advantage. We're paving the way to a sustainable future.

Surface Tech
888 Prospect Street Suite 200 La Jolla, CA 92037
phone: +1 619 880 0265
email: info@surface-tech.com

WWW.SURFACE-TECH.COM