

Case Study

application	Crack Retarding for Asphalt Overlay
location	Old US52, south of Winston Salem, NC
product	TruPave® Paving Mat

job owner	NCDOT
engineer	NCDOT
contractor	Larco/Landsaver

TenCate™ develops and produces materials that function to increase performance, reduce costs and deliver measurable results by working with our customers to provide advanced solutions.

THE CHALLENGE

North Carolina Department of Transportation (NCDOT) had a 2 mile section of US52, south of Winston Salem where they wanted to find a way to retard reflective cracking over an existing Portland Cement Concrete (PCC) pavement that had previously been overlaid with a Hot Mix Asphalt (HMA). The joints from the old PCC pavement had reflected back through rather quickly, creating transverse and longitudinal cracking in the overlay. There was also major block cracking in the existing HMA.

THE DESIGN

NCDOT was going to use their typical 2" hot-mix asphalt overlay and live with the 4 to 5 year service life they had seen in the past. NCDOT was approached by Landsaver, who showed them two ways TruPave® Paving Mat could extend the life of their overlay. TruPave® Paving Mat could perform as a waterproofing membrane to protect against the infiltration of water into the base and it could add some structural strength to the new HMA overlay. Because this was a test project for the NCDOT, there was no crack filling or prep to the existing surface.

THE CONSTRUCTION

In March of 2004, work started on the TruPave® Paving Mat installation. Landsaver placed the paving mat tack coat (PG64-22) at the specified rate and laid the TruPave® Paving Mat. Larco, the paving contractor on the project, followed behind with the 2" thick HMA overlay. NCDOT also had Larco place a test section with a 2" thick HMA overlay and no TruPave® Paving Mat.



US52 before construction.



Installation of TruPave® Paving Mat on US52.

Protective & Outdoor Fabrics Geosynthetics
Aerospace Composites Industrial Fabrics
Armour Composites Synthetic Grass

THE PERFORMANCE

In the summer of 2004, NCDOT already started to see a difference between the control and the TruPave® Paving Mat sections. The TruPave® lanes were providing a much smoother ride than the control sections.

Late in 2004, on return to the site, the control section had transverse, longitudinal, and heavy block cracking showing through the HMA overlay. The cracks stopped immediately along the TruPave® delineation.

With most recent follow-up to the site in 2008, the control section has continued to deteriorate while the TruPave® Paving Mat section is only now starting to see typical top down cracking that most asphalt pavements experience.



Roadway in November of 2004.



Roadway in August of 2008.

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