



Case Study

application Double Application of Chip Seal over TruPave® Engineered Paving Mat

location Portland, CT

product TruPave® Engineered Paving Mat

job owner Portland, CT School District

engineer Rick Kelsey, City of Portland, CT

contractor New England Asphalt
Skip Swaintek, General Mgr.

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

With limited funding available, the Portland Connecticut School District was looking for site improvements to the ingress and egress roadway servicing Gildersleeve Elementary School, located in Portland, CT. New England Asphalt, having operations located in nearby New Haven, CT was involved with providing construction cost alternatives to the school district. New England Asphalt was charged by TenCate, Master Distributor for TruPave® Engineered Paving Mat, to look at alternative surface treatment applications using TruPave®. New England Asphalt's General Manager, Skip Swaintek, thought this was a perfect application and opportunity to install the TruPave® interlayer with a double application of chip seal surface treatment as a test project to analyze the short and long-term performance.

In order to provide a better riding surface and assist with improved traffic movement during school hours, a plan was also developed to expand the drop-off and pick-up area for students. With this added expansion of the roadway, the surface treatment provided a viable cost opportunity to the School District to execute the work. The savings realized by the Portland School District using this alternative application, in lieu of traditional removal and replacement of the pavement was less than half the total project cost of traditional means. With that, the School District and City of Portland, CT gave New England Asphalt approval to begin the work.

THE CONSTRUCTION

The roads were first reconditioned with an application of a hot mix leveling course in order to re-establish road profiles and cross slopes for water drainage. It is recommended that a leveling surface be applied when using TruPave® Paving Mat over pavement showing signs of excessive fatigue cracking and distressed surfaces. Once this work was completed, final installation of the TruPave® Paving Mat

and chip seal surface treatment could be completed. TruPave® Engineered Paving Mat is applied using a hot applied tack coat using PG 64-22 asphalt to the surface at a rate of 0.25 gallons per square yard. This ensures complete mat saturation providing a water barrier along with the physical attributes of high tensile strength mitigating reflective cracking from the older pavement surface below.



Figure 2: Reconditioned roadway surface.

Once the TruPave® was installed, the first application of CRS-2PL emulsion was installed at a rate of 0.33 gal/sy.



Figure 1: Typical pavement conditions prior to TruPave® with chip seal application.



Figure 3: PG 64-22 asphalt tack applied and TruPave® installed.

The emulsion is a cationic rapid set polymerized latex blend that is used in chip seal surface treatment applications to hold the chip stone to the pavement. Next, the first layer of stone was applied at a rate of 20 lbs. per square yard, and rolled with a pneumatic tire roller. The stone was coated with SS-1h emulsion at a rate of 2 gal/ton to provide additional weathering protection of the stone surface.

The final step in the process is to apply the second application of emulsion and stone for the finished surface. The emulsion was applied at a rate of 0.40 gal/sy and the stone at a rate of 22 lbs/sy, then rolled in place.



Figure 4: TruPave® installed over roadway...ready for chip seal installation.

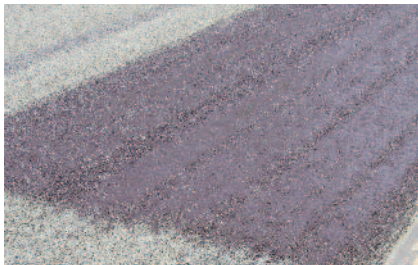


Figure 7: 2nd application of emulsion applied at 0.40 gal/sy.



Figure 6: Stone rolled in-place to embed into TruPave.



Figure 5: Emulsion applied over TruPave®-1st layering of stone applied.



Figure 8: 2nd application of stone applied at 22 lb/sy.

THE PERFORMANCE

A small control section of the outbound lane (approximately 12' x 30') was not covered by TruPave®, to show a comparison of performance of the chip seal surface treatment "with and without" the interlayer. The installation of TruPave® Engineered Paving Mat is a test in progress, as TenCate engineers look to expand the market application of TruPave® using alternative surface treatment applications, such as chip seals.



Figure 9: Control section with no TruPave® on the surface.

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