

Experimental Project Construction and Evaluation Report

EVALUATION OF VARIOUS PAVEMENT FABRIC AND MAT APPLICATIONS TO
RETARD REFLECTIVE CRACKING

Project Name: Flesher Pass - East
Project Number: STPS 279-1(15)22: Control No. 6234000
FHWA Project Number: MT 00-18
Project Location: Secondary 279, C000279; RP 22.2-30.5, Lewis & Clark
County: Experimental site locations at RP 24
Description: Pavement reinforcement to mitigate reflective cracking on
hot mix asphalt (HMA) pavement
Date of Installation: September 2008
Principal Investigator: Craig Abernathy
Experimental Program Manager

Objective

Experimental assessment of various pavement reinforcement systems (PVS) in effort to determine effectiveness of these treatments for potential use in future road construction projects for the reduction of reflective cracking.

Experimental Design

The paving mats selected for trial as follows:

- TruPave Engineered Paving Mat
- PavePrep Geo-Composite Membrane
- GlasPave 25 Waterproofing Paving Mat
- GlasGrid 8512 Pavement Reinforcement System

The following diagram depicts the experimental sections as constructed. Each section is approximately 300 ft. (91m) in length. Section 3 (no treatment) is 200 ft. and not part of

the analysis. Note that sections 1 & 2 were removed from the experimental plan prior to construction. These sections were initially designated to have the PVS as a topical treatment to the overlay prior to seal and cover (aka chip seal). Upon consultation with the manufacturers regarding this application in which they stated that this procedure was not the intended use of the product and failure will most likely occur, it was determined not to construct these features. Section 3 & 7 are the formal controls for the project. A tack coat was applied to the milled pavement prior to application of the test sections. An approximate crack map of the test and control sections was documented to compare past and progressive pavement distress. Project reports are available at: <http://www.mdt.mt.gov/research/projects/flesher.shtml>. Research will report on performance of these test sites for five years (2013).

SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5	SECTION 6	SECTION 7	SECTION 8
TRUPAVE (REMOVED)	GLASPAVE (REMOVED)	NO TREATMENT	TRUPAVE	GLASPAVE	PAVEPREP	NO TREATMENT	GLASGRID
← STA 205+00	← STA 208+00	← STA 211+00	← STA 213+00	← STA 216+00	← STA 219+00	← STA 222+00	← STA 225+00

Placement

Construction took place during the months of August and September of 2008. The following images depict the placement of the various fabrics. Unfortunately, due to other projects being constructed at the same time Research was unable to document the most of the construction activities.



↑ Example image of pavement condition prior to construction

TruPave Installation



↑ Application of TruPave. A tack coat has been applied to the milled surface to adhere to the PVS. Workers manually rolled out the material.



↑ Continuing application of TruPave. Note that the workers were unable to prevent fining or curling of the product to pavement (red arrows). Normally this material would have been applied using a vehicle mounted placement equipment which through tensioning would have eliminated the fining. Due to the short length of the test sites this was not feasible due to costs.



↑ Active placement of the HMA over the TruPave.



↑ Completing HMA placement over TruPave.

GlasPave Installation



↑ Placing of GlasPave on tack coat. Note the large finning of the product while being rolled (red arrows).



↑ GlasPave installation complete, ready for paving.



↑ Paving of GlasPave in process.



↑ End of paving GlasPave section, paver moving onto TruPave.

Supplemental Images

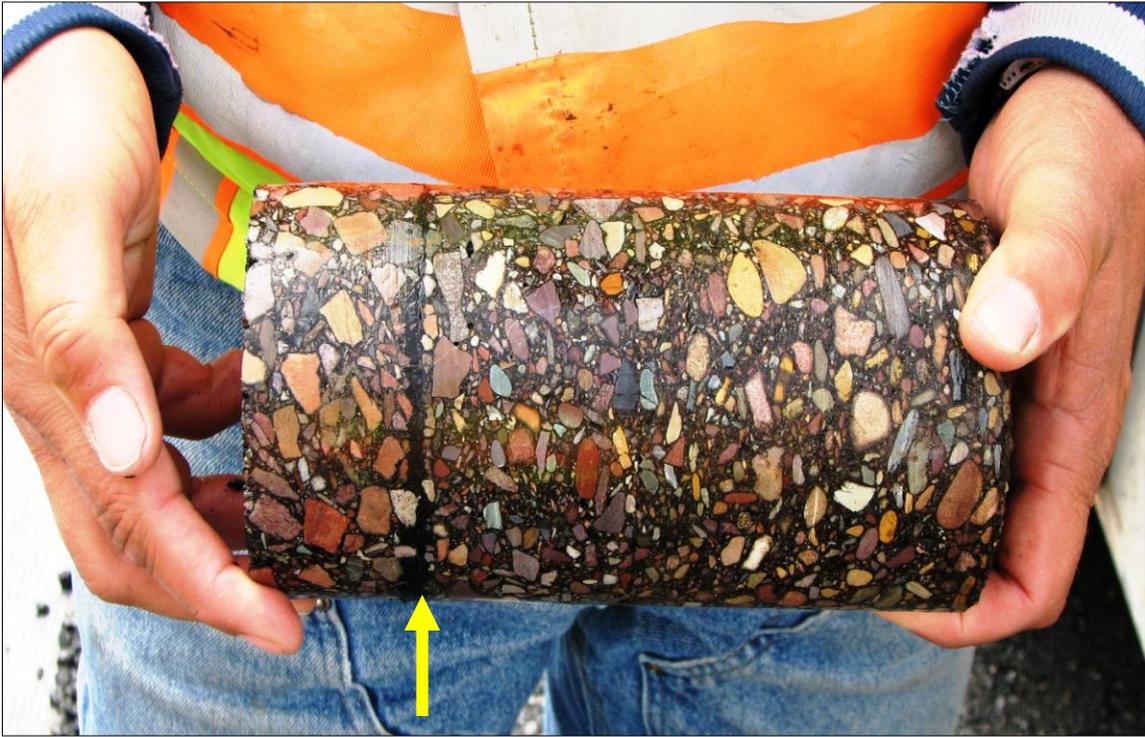


↑ Representative image of GlasGrid placement prior to application of HMA. GlasGrid was not a full lane application; applied only areas of known transverse cracking.



↑ Representative image of PavePrep placement prior to application of HMA. As with the GlasGrid installation, only the transverse cracking received treatment.

Note: Research was unable to document the HMA placement of the GlasGrid and PavePrep sections.



↑ Core sample of GlasPave (yellow arrow).



↑ Core sample of TruPave (yellow arrow).

Images of Completed Test and Controls Sites



↑ Site 3: Control – No treatment.



↑ Site 4: TruPave.



↑ Site 5: GlasPave.



↑ Site 6: PavePrep.



↑ Site 7: No treatment – control.



↑ Site 8: GlasGrid.