

CERTIFICATE OF ANALYSIS

October 8, 2014

Report For: Hi-Lite Markings, Inc.
18249 Hi Lite Dr.
Adams City, NY 13606

Attn: Jason Kellar

Email: jason@hi-lite.com

Sample ID: Findlay, OH Cores	Project #: HILT 06-02-02
Date Received: 10/2/14	Type: Top 3/8" of Cores

OBJECTIVE: Evaluate pavement performance in accordance with the FAA P-632 Table 2 Bituminous Pavement Rejuvenation specifications.

DATA/RESULTS:

PROPERTY	AASHTO TEST METHOD	SPECIFICATIONS	RESULTS			
			L1	L2	L3	
Untreated Sample						
Item P-632 Requirements						
Complex Modulus, G*, kPa	60°C	T 315	Report	5.008	5.128	5.623
Viscosity, η^* , Pa.s				5008	5128	5623
Phase Angle, δ , °				82.27	82.13	83.12
Treated Sample: Initial Results						
Item P-632 Requirements						
Complex Modulus, G*, kPa	60°C	T 315	Report	1.557	1.129	0.831
Viscosity, η^* , Pa.s				1557	1129	831
Phase Angle, δ , °				86.31	87.35	87.73
Decrease from Untreated	60°C	Calculation	40% Minimum	-68.9	-78.0	-85.2
Complex Modulus, G*, kPa				-68.9	-78.0	-85.2
Viscosity, η^* , Pa.s			Report	4.9	6.4	5.5
Phase Angle, δ , °						
Treated Sample: 2 Year Results						
Item P-632 Requirements						
Complex Modulus, G*, kPa	60°C	T 315	Report	1.790	2.443	2.000
Viscosity, η^* , Pa.s				1790	2443	2000
Phase Angle, δ , °				85.9	84.5	85.4
Decrease from Untreated	60°C	Calculation	40% Minimum	-64.3	-52.4	-64.4
Complex Modulus, G*, kPa				-64.3	-52.4	-64.4
Viscosity, η^* , Pa.s			Report	4.4	2.9	2.7
Phase Angle, δ , °						

CONCLUSION: All locations passed the FAA P-632 AASHTO T 315 section stating samples must be reduced by at least 40% of the control viscosity. After two years the reduction remains below the 40% minimum that was required upon initial application. Item P-632 requires only that after two years the treatment be tested to insure reasonable longevity.

PROCEDURE: All cores were saw-cut removing the top 3/8" layer of the core. The material was broken up and extracted using method ASTM D 2172 (Method A) with toluene and ASTM D 5404 to recover the binder.

Tested by:
Jimmy Ynigues, Pavement Technician

Date: October 8, 2014

Reviewed by:
Laci Tiarks-Martin, Director

Date: October 8, 2014