

LIQUID ROAD

For Application on Roads

SMT-333

REVISED 04/06/23

PRODUCT DESCRIPTION

Liquid Road For Roads is a polymer-modified, fiber reinforced asphalt emulsion coating that is job-mixed with specially graded aggregate and applied to pavement surfaces. The result is a highly durable, slip-resistant surface treatment that greatly extends pavement service life. Liquid Road meets ASTM D8099/ D8099M-17 Standard Specifications for Asphalt Emulsion Pavement Sealer.

RECOMMENDED USES

Liquid Road is a premium grade pavement coating that is ideal for all types of pavement surfaces including Roads, streets parking lots, shopping malls, airports, driveways, roadways and more. This specification pertains to Liquid Road application on Roads and Streets. For Parking Lot and Driveway application please refer to technical data sheet SMT-332.

ESTIMATING MATERIAL REQUIREMENTS

For road application, one gallon of Liquid Road will cover approximately 24-30 square feet (2.66-3.33 square yards) per coat when properly mixed and applied.

APPLICATION RATE OF MIXED MATERIALS

Apply properly mixed Liquid Road (Liquid Road and Aggregate) at a rate of 20-25 square feet (2.22-2.77 square yards) per gallon per coat. Application rates may vary due to pavement porosity and method of application. Multi-coat application is recommended for optimum durability (See APPLICATION PROCEDURES below.)

PERFORMANCE CHARACTERISTICS

Table 1 - Physical Properties Of Liquid Road As Supplied Without Sand		
ASTM	Test Description	Result
D5	Penetration of Bituminous Materials-Base Asphalt	12-45 Pen
D6937	Density of Emulsified Asphalt	1,000 -1300 g/l
D6930	Settlement and Storage Stability of Emulsified Asphalts	20% max./24 hr.
D113	Ductility of Bituminous Materials-Base Asphalt	5-15 cm
Std. %	Percent Polymer Solids to Asphalt by wt.	3% min.
E70	PH of Aqueous Solutions with Glass Electrodes	6-10 PH
D6378	Vapor Pressure (VPX), mm Hg @ 25° C (77° F)	22-26 mm Hg
D36	Softening Point of Emulsion Residue (Ring and Ball Apparatus)	> 200° F
D562	Viscosity using a Stormer-Type Viscometer	60-110 KU
D4060	Abrasion Resistance- Taber Abraser Dry Method	< 1% Loss
D522	Mandrel Bend Test of Attached Coatings	No Cracking

D870	Water Resistance of Coatings using Water Immersion	No Delamination
D6904	Resistance to Wind-Driven Rain	No Delamination
D4585	Water Resistance of Coatings Using Controlled Condensation	No Delamination
D1735	Water Resistance of Coatings Using Water Fog Apparatus	No Delamination
D2247	Water Resistance of Coatings in 100% Relative Humidity	No Delamination
D4541	Adhesion Strength over Asphalt Pavement	> 200 PSI
D3910-6.4	Wet Track Abrasion Test	< 15 g/ft ² Loss
D2939-5	Uniformity of Emulsified Bituminous Coatings	PASS
D2939-7	Weight per Gallon	9-11 lbs./gal
D2939-8	Residue by Evaporation, %	40-60%
D2939-13	Drying Time- 50% humidity, 73.4 ± 3.6°F	2-6 hrs.
D2939-14	Resistance to Heat- No Blistering, sagging or slipping	PASS
D2939-15	Resistance to water- No softening, delamination or re-emulsification	PASS
D2939-16	Flexibility- No Cracking or Delamination	PASS
D2939-26	Resistance to Impact- No Chipping, Cracking or Delamination	PASS
D2939-27	Resistance to Impact After Accelerated Weathering	PASS
D2172	Asphalt Content by Weight, %	Min. 16%
D4799	QUV UV Aging-1,000 Hours	No Color Fade
D3359	Measuring Adhesion by Tape- No More than a Trace of Peeling	PASS
Volatile Organic Compounds	Determination of Volatile Organic Compounds (VOC) in various Coatings	< 10 g/l
PAH Content (Percentage)	Polycyclic Aromatic Hydrocarbon Content (Percentage)	Less than one-tenth of 1% (< .10%)
D2939-22	Wet Film Continuity	PASS
D95	Water Content %	40-60%
D2939-10	Ash Content of Residue, %	40-65%

Table 2 - Physical Properties Of Liquid Road Job-Mixed With Specified Aggregate And Ready For Road Application (See Table 3 For Aggregate Specifications)		
ASTM	Test Description	Result
D2939-8	Residue by Evaporation, %	45-65%
E303	Measuring Surface Frictional Properties- British Pendulum Tester	Min. 70 BPN
E274	Locked Wheel Skid Testing	> 30 SN
D4060	Abrasion Resistance- Taber Abraser Dry Method	< 1% Loss
D3910-6.4	Wet Track Abrasion Test	< 25 g/ft ² Loss
D5	Penetration of Bituminous Materials-Base Asphalt	12-45 Pen
D113	Ductility of Bituminous Materials-Base Asphalt	5-15 cm

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Table 2 - Physical Properties Of Liquid Road Job-Mixed With Specified Aggregate And Ready For Road Application Continued (See Table 3 For Aggregate Specifications)

ASTM	Test Description	Result
Std. %	Percent Polymer Solids to Asphalt by wt.	3% min.
E70	PH of Aqueous Solutions with Glass Electrodes	6-10 PH
D6378	Vapor Pressure (VPX), mm Hg @ 25° C (77° F)	22-26 mm Hg
D36	Softening Point of Emulsion Residue (Ring and Ball Apparatus)	> 200° F
D562	Viscosity using a Stormer-Type Viscometer	60-110 KU
D870	Water Resistance of Coatings using Water Immersion	No Delamination
D6904	Resistance to Wind-Driven Rain	No Delamination
D4585	Water Resistance of Coatings Using Controlled Condensation	No Delamination
D1735	Water Resistance of Coatings Using Water Fog Apparatus	No Delamination
D2247	Water Resistance of Coatings in 100% Relative Humidity	No Delamination
D4541	Adhesion Strength over Asphalt Pavement	> 200 PSI
D2939-7	Weight per Gallon	10-12 lbs./gal
D2939-13	Drying Time- 50% humidity, 73.4 ± 3.6°F	2-6 hrs.
D2939-5	Uniformity of Emulsified Bituminous Coatings	PASS
D2939-22	Wet Film Continuity	PASS
D95	Water Content %	35-55%
D2939-10	Ash Content of Residue, %	60-75%
D2939-14	Resistance to Heat- No Blistering, sagging or slipping	PASS
D2939-15	Resistance to water- No softening, delamination or re-emulsification	PASS
D2939-16	Flexibility- No Cracking or Delamination	PASS
D2939-26	Resistance to Impact- No Chipping, Cracking or Delamination	PASS
D2939-27	Resistance to Impact After Accelerated Weathering	PASS
D4799	QUV UV Aging-1,000 Hours	No Color Fade
D3359	Measuring Adhesion by Tape- No More than a Trace of Peeling	PASS
Volatile Organic Compounds	Determination of Volatile Organic Compounds (VOC) in various Coatings	< 10 g/l
D2939-26	Resistance to Impact- No Chipping, Cracking or Delamination	PASS
D2939-27	Resistance to Impact After Accelerated Weathering	PASS
D4799	QUV UV Aging-1,000 Hours	No Color Fade
D3359	Measuring Adhesion by Tape- No More than a Trace of Peeling	PASS
SCAQMD Method 304	Determination of Volatile Organic Compounds (VOC) in various Coatings	< 50 g/l

SURFACE PREPARATIONS

Surface must be clean and free from loose material and dirt. Cracks should be filled with SealMaster Cold Pour

or Hot-Applied Crack Filler. On extremely weathered and oxidized pavement surfaces, tack coating (priming) may be beneficial. Tack coat shall consist of diluted SealMaster Asphalt Binder, SS1h or CSS1h. Dilute 1 part Asphalt Binder, SS1h or CSS1h with 4 parts water. Apply diluted material at a rate of .05 to .10 gallon per square yard. Allow tack coat to dry thoroughly before applying Liquid Road.

APPLICATION EQUIPMENT

Liquid Road for Roads shall be applied by mechanical squeegee and or brush equipment. Equipment shall have continuous agitation or mixing capabilities to maintain homogenous consistency of Liquid Road and Aggregate mixture throughout the application process. Truck mount or self-propelled squeegee/brush equipment shall have at least 2 squeegee or brush devices (one behind the other) to assure adequate distribution and penetration of Liquid Road into bituminous pavement. Hand squeegees and brushes shall be acceptable in areas where practicality prohibits the use of mechanized equipment.

Table 3 - Liquid Road Aggregate Specifications For Road Application

Mesh-Sieve Size (ASTM E11)	Typical Mean Retained On Individual Sieves %
No. 8 Mesh (2.38 mm)	-0-
No. 10 Mesh (2.00 mm)	0-5%
No. 12 Mesh (1.68 mm)	2-10%
No. 16 Mesh (1.19 mm)	30-60%
No. 20 Mesh (.841 mm)	20-50%
No. 30 Mesh (.595 mm)	2-10%
No. 40 Mesh (.420 mm)	1-5%
No. 50 Mesh (.297 mm)	1-5%
No. 70 Mesh (.210 mm)	1-5%
No. 100 Mesh (.149 mm)	0-5%
Sand or Aggregate shall have a typical AFS of 11-15 Mesh	

MIXING PROCEDURES

For application on roads mix Liquid Road in accordance with the following mix design (based on 100 gallons of Liquid Road for ease of calculation):
 Liquid Road..... 100 gallons
 Sand (11-15 mesh).....400 lbs.

NOTE: See Table 3 – Liquid Road Aggregate Specification for Road Application

APPLICATION PROCEDURES

To achieve optimum performance and the desired results for Liquid Road it is important to follow proper application procedures.

1.) Apply first squeegee/brush coat of mixed Liquid Road at a rate of 20-25 square feet (2.22-2.77 square yards)

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per gallon. Allow first coat to dry thoroughly before applying second coat.

2.) Apply second squeegee/brush coat of mixed Liquid Road at a rate of 20-25 square feet (2.22-2.77 square yards) per gallon. Allow second coat to dry thoroughly before opening to traffic.

APPLICATION CONDITIONS

Liquid Road shall not be applied when temperature is expected to drop below 50°F during application and for a period of at least 24 hours after application.

LINE STRIPING AND TRAFFIC MARKINGS

Use SealMaster 100% Acrylic Traffic paint for line striping and traffic markings.

CAUTIONS

Both surface and ambient temperature shall be a minimum of 50°F and rising during Liquid Road application. Do not apply if temperature is expected to drop below 50°F within a 24 hour period after Liquid Road application.

PACKAGING AND AVAILABILITY

Liquid Road is available in 5-gallon pails, 55-gallon drums and bulk tanker load quantities. Liquid Road is supported by a national network of SealMaster manufacturing facilities along with a national network of qualified applicators.

WARRANTY AND DISCLAIMER

The statements made on this technical data sheet are believed to be true and accurate and are intended to provide a guide for approved application practices. As workmanship, weather, construction, condition of pavement, tools utilized, and other variables affecting results are all beyond our control, the manufacturer warrants only that the material conforms to product specifications and any liability to the buyer or user of this product is limited to the replacement value of the product only. The manufacturer expressly disclaims any implied warranties of merchantability or fitness for a particular purpose.

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