N.A.S.M.A Specs

National Asphalt Sealcoating Manufacturing Association

1-3 ASPHALT SEALCOATS

1-3.01 Descriptions

The work covered by this specification includes the design, testing, and quality control required for the proper production of an Asphalt Sealcoat product and all materials, equipment and workmanship required for the application of an Asphalt Sealcoat to an existing asphalt concrete pavement where shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

Asphalt sealcoats are recommended for minor repair and maintenance and for the protection of existing asphalt concrete pavements such as low volume city streets, parking lots, highway shoulders, airport taxiways, tarmacs, and aprons, bike paths, driveways, or any asphalt concrete pavement.

Asphalt sealcoats under this specification shall be manufactured by uniformly blending asphalt emulsions, aggregates, water, and various addmixtures in a central plant capable of producing a minimum of 750 gallons per hour of finished product. Components shall be measured by electronic or mechanical controls that consistently add all additives as required by these specifications. Blending the addmixtures with the base asphalt emulsion shall be by mechanical means to provide a uniform mixture.

Asphalt Sealcoat shall be stored in a tank equipped with power driven mixing or agitation equipment capable of keeping the Asphalt Sealcoat thoroughly and uniformly mixed. The stored material shall be protected from freezing in cold weather conditions.

1-3.02 Materials

The materials for Asphalt Sealcoat immediately prior to mixing shall con form to the following requirements:

Asphaltic Emulsion shall beSS1h or CSS1h, con forming to the requirements in Section 94 of the California Standard Specification, "Asphaltic Emulsions." Table 1or 2, with the exception of the penetration on residue from distillation which will conform to a value of 20 to 60. Clay stabilized emulsion, with a ph not greater than 7.0, and solids content not less than 45% may be used.

The properties of the SS1h shall be determined in accordance with AASHTO designation T59 "testing emulsified asphalt."

Water shall be potable and of such quality that the water will not separate from the emulsion before the sealcoat is applied.

Mineral Aggregate components shall be 100% passing the #16-mesh sieve. These components shall be a natural or manufactured consisting of clean, hard, durable, uncoated particles that are clean and free from decomposed materials, organic materials and other deleterious sub stances. The sieve analysis of the Mineral Aggregate components shall be determined in accordance with A.S.T.M. test method C136 or Cal Test 202.

1-3.03 Mix Certification

At least 7 days before asphalt sealcoat placement commences, the Contractor shall submit to the Engineer for approval a laboratory report of tests and Manufacturer's certificate of compliance covering the specific materials to be used on the project.

The tests shall be performed by a laboratory capable of performing the applicable Asphalt Sealcoat Manufacturers Association (ASMA} recommended tests set forth in Table 1.

1-3.04 Surface Preparation

The surface to receive Asphalt Sealcoat must be free of all foreign material and dry immediately prior to sealcoat application. Cleaning may be by air blowing, vacuum, mechanical sweeper, washing, or other techniques as approved by the Engineer. If washing the existing surface is used, the surface shall not have any standing water prior to application of the sealcoat. Salt, deicing agents, fertilizers, hard water deposits and other such chemicals will promote lack of bonding of the sealcoat to the existing surface any may require extraordinary cleaning measures.

Cracks in excess of 1/4 inch, but less than one inch in width must be sealed prior to application of the sealcoat. Cracks must be cleaned of all weeds and debris prior to cracksealing with crackfiller. The crackfiller shall be applied per manufacturer's recommendations and must be dry to the touch prior to application of the sealcoat. Cracks that contain weed and other live vegetable matter must be treated with locally approved non-oil based sterilant prior to application of crackfiller.

Cracks wider than one inch shall be filled with a fine aggregate hot, dense graded asphalt concrete conforming to Section 39 of the California Standard Specification for 3/8" Maximum Asphalt Concrete.

Crackfiller shall be a hot or cold applied product designed for use in asphaltic concrete made from petroleum asphalt, modified polymers, and suitable inert fillers. The properties of the Crackfiller shall be such as to be compatible with the Asphalt Sealcoat.

Prior to application of sealcoat, deposits of grease or oil shall be cleaned by scraping, burning, and/or the use of approved detergents in order to promote adhesion of the sealcoat. After cleaning the areas described above, the areas shall be sealed with an oilseal. Oilseal shall be a quick drying latex emulsion with suitable addmixtures manufactured specifically for the purpose of isolating the Asphalt Sealcoat from any residual oils, petroleum grease, and gasoline stained pavement. The properties of the Oilseal shall be such as to be compatible with the Asphalt Sealcoat. In areas where the foreign oil or grease has penetrated the asphalt concrete such that cleaning as described above is not effective, the affected areas shall be removed to the depth necessary but not less than ¾ inch. The removed asphalt concrete shall be replaced with new asphalt concrete conforming to Section 39 of the California Standard Specification.

On excessively weathered surfaces or areas such that cleaning operation leave a film of dust, a tack coat of SS1h conforming to Section 94 of the California Standard Specifications shall be applied. The tack coat shall consist of One (1) part SSlh with Four (4) parts water or Two (2) parts Asphalt Sealcoat with One (1) part water applied at a rate of 0.05 to 0.10 gal/sq. yd. The tack coat must be dry prior to application of the Asphalt Sealcoat.

Areas of structurally unsound asphalt concrete such as alligator cracking, low spots (birdbaths) or rutting must be properly repaired prior to placement of the Asphalt Sealcoat. (Refer to Asphalt Institute Publication MS-16).

Asphalt Sealcoat shall not be placed on new asphalt concrete until after a 30-day minimum cure period or as directed by the Engineer.

1-3.05 Application

Application of the Asphalt Sealcoat shall be by mechanical means using rubber faced

squeegees, brooms, distributor bar /wand, or combinations of these or other techniques approved by the Manufacturer and by the Engineer.

Areas of structurally unsound asphalt concrete such as alligator cracking, low spots (birdbaths) or The Asphalt Sealcoat being applied shall be uniform and free flowing, free of lumps and other inconsistencies. Potable water may be added as necessary as per manufacturer's recommendation, for consistency and spreadability but shall not exceed 15% by volume or as directed by Engineer. If after the addition of the maximum allowable water volume the sealcoat is unsuitable, the materials shall be rejected and removed from the site.

Areas of structurally unsound asphalt concrete such as alligator cracking, low spots (birdbaths) or Engineer. The sealcoat must be thoroughly dry prior to application of the second or subsequent coats.

Areas of structurally unsound asphalt concrete such as alligator cracking, low spots (birdbaths) or Application of Asphalt Sealcoat in ambient temperatures in excess of 80 degrees Fahrenheit shall require pretreatment of the asphalt concrete surface with a water mist. The water must not be standing, but the surface should be damp prior to sealcoat application. This treatment is also recommended for application on porous surfaces where the water within the sealcoat may be absorbed too quickly by the existing pavement surface.

Areas of structurally unsound asphalt concrete such as alligator cracking, low spots (birdbaths) or Asphalt Sealcoat shall be applied uniformly over the prescribed are in continuous parallel lines in a manner so that no ridges or uncoated areas shall exist. Application rates will vary depending on the texture of the existing asphalt surfaces requiring more sealcoat than smooth surfaces. The following application rate is a guideline only.

ASPHALT SEALCOAT RECOMMENDED MINIMUM APPLICATIONS RATES (Based on two coats undiluted material)

Smooth, Dense Surface - 20 Gals. per 1,000 Sq. Ft.
Medium Surface - 30 Gals. per 1,000 Sq. Ft.
Rough, Aged Surface - 40 Gals. per 1,000 Sq. Ft.
Excessively Rough, Aged Surface - 50 Gals. per 1,000 Sq. Ft.

When the Asphalt Sealcoat is to be placed on a severely weathered pavement surface with a very rough texture, the addition of #30-mesh sand with additional binder is recommended for the first coat. The addition of sand shall not exceed 3 pounds per gallon without approval of the Engineer. Additional binder shall consist of 1/10 gallon of SSlh or 1-3% Liquid Latex binder per gallon of undiluted Asphalt Sealcoat or as directed by Engineer.

The properties of the sand shall be determined in accordance with Cal Test 202 testing methods described in section 1-3.02 of this specification.

Asphalt Sealcoat shall not be applied when the ambient temperature is less than 55 degrees for the surface temperature is less than 60 degrees F. Sealcoat shall be applied within 24 hours prior to forecasted rain, freezing temperatures, during rain, or when the surface contains standing water.

1-3.06 Miscellaneous

Traffic shall not be allowed on the Asphalt Sealcoat until the sealcoat is thoroughly cured which in warm weather conditions is approximately 24 hours. Minor scuffing or power

steering marks may occur on a newly applied surface in warm weather.

Irrigation watering shall be kept off for at least 24 hours prior to and after the application of Asphalt Sealcoat.

Upon request, Contractor shall supply owner with scale tags for the project containing the following information: Product name, Project name or location, Gallons/Tons supplied for the project.

A tack coat is recommended when using Asphalt Emulsion based sealcoat over pavement previously treated with Coal Tar (a test section is recommended and/or consult an Engineer).

Striping for parking and traffic flow should be done only after the sealcoat has thoroughly dried. For best results, a high quality Traffic Line paint is recommended.

1-3.07 Measurement

Asphalt Sealcoat will be measured by the gallon (or ton). This may be determined by weight/gallon factors provided and certified by the manufacturer at point of sale. The quantity of sealcoat to be paid for will be by the gallon (or ton) before dilution with water or any add mixture not included in the manufacturing process.

1-3.08 Payment

The contract price paid (per gallon) for Asphalt Sealcoat shall include full compensation for furnishing all labor.

	MIN
Weight (per gallon)	9.5 lbs.
Cone Penetration	340 mm
% Non-Volatile	50
% Non-Volatile Soluble In Tri-Clorethylene	10
Wet Track Abrasion	35 gram loss
Mineral Aggregate Components	#16 Sieve 100% passing
Dried Film Color Viscosity	Black 75 KREB
Accelerated Weathering	No Deterioration

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