# Optional Surface Treatment Prior to Asphalt Overlay NJSP-15-33D

**1.0 Description.** This work shall consist of furnishing and applying an optional surface treatment to fill and seal cracks on the existing roadway prior to an asphaltic concrete overlay. The optional surface treatment may be placed concurrently with the overlay with a spray paver, as specified herein, or may be placed in advance of the overlay in accordance with Sec 413.20.

**2.0 Surface Treatment.** All materials and construction requirements shall be in accordance as follows:

|  |  |
| --- | --- |
| **Treatment Options** | **Requirements** |
| Scrub Seal Treatment | Sec 413.20 |
| Polymer Modified Emulsion Membrane  Applied using a Spray Paver | Section 4.0 of this JSP |

**2.1 Scrub Seal Emulsion (SSE-1).** Scrub seal emulsion shall be in accordance with Sec 1015.20.5.3.

**3.0 Construction.**

**3.1 Emulsion Application Rates.** The surface treatment shall be applied uniformly across the entire width to be overlaid at the target rates indicated in the following table. The application rate shall be within +/- 0.02 gallon per square yard of the target application rate. No dilution of the emulsified asphalt material shall be allowed. The surface shall be clean of all dirt before emulsion is placed.

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| --- | --- |
| **Treatment Options** | **Target Application Rate**  **(gal/sq yd)** |
| Scrub Seal Emulsion | 0.25 |
| Polymer Modified Emulsion Membrane  Applied using a Spray Paver | 0.25 |

**3.2 Application Temperatures.** The emulsified asphalt material shall be heated at the time of application to a temperature as indicated in the following table or as recommended by the manufacturer.

|  |  |  |
| --- | --- | --- |
| **Treatment Options** | **Spray Temperature, °F** | |
|  | **Min** | **Max** |
| Scrub Seal Emulsion | 110 | 160 |
| Polymer Modified Emulsion Membrane  Applied using a Spray Paver | 120 | 180 |

**3.3 Scrub Seal Aggregate Application Rate.** The application rate of fine aggregate placed on the scrub seal shall be a target rate of 10 lb/yd2. The intent of the fine aggregate coverage is to be used as a blotter material to assist with opening to traffic. Adjustments to this rate shall be approved by the engineer. If the fine aggregate application rate exceeds 10 lb/yd2, then a tack coat shall be applied prior to the asphalt overlay at a rate of 0.05 gal/yd2 at no direct pay.

**3.4 Curing.** Prior to opening to traffic or placing the asphaltic concrete overlay, the scrub seal treatment shall be allowed to set and cure until the treatment does not track under construction traffic.

**3.5 Opening to Traffic.** If the surface is treated with a scrub seal, it shall remain closed to traffic until the surface is tack-free and does not track under construction traffic. The surface shall be clean of all dirt and loose sand before the asphaltic concrete overlay is placed.

**3.6 Tack Coat.** If the surface is treated with a scrub seal and is opened to traffic for more than 3 days, then the surface shall be tacked in accordance with Sec 407 at an application rate of 0.05 gal/yd2 prior to placing the asphaltic concrete overlay. If the treated pavement is open to traffic for less than 3 days and the fine aggregate application rate was 10 lb/yd2 or less, then no additional tack coat is required prior to placing the asphaltic concrete overlay. No direct pay will be made for the application of tack coat.

**4.0 Polymer Modified Emulsion Membrane.**

**4.1 Description.** This work shall consist of placing a Polymer Modified Emulsion Membrane (PEM-1 or CPEM-1) prior to a bituminous overlay of hot asphaltic concrete pavement. The Polymer Modified Emulsion Membrane shall be spray applied immediately prior to the application of the hot asphaltic concrete pavement so as to produce a homogeneous surface in accordance with Secs 401, 402, or 403.

**4.2 Materials.** The Polymer Modified Emulsion Membrane shall be in accordance with Sec 1015.20.6.2.

**4.3 Construction Requirements.** The asphaltic concrete pavement shall be placed in accordance with Secs 401, 402, or 403, except as modified herein.

**4.4 Equipment.** No wheel, track or other part of the paving machine or any hauling equipment shall come in contact with the Polymer Modified Emulsion Membrane before the asphaltic concrete pavement mixture is applied.

**4.5 Application of Polymer Modified Emulsion Membrane.** The sprayer shall accurately and continuously monitor the rate of spray and provide a uniform application across the entire width to be overlaid. The target application rate of the asphalt emulsion membrane shall be as shown under Section 3.1 of this Job Special Provision. The application rate of the Polymer Modified Emulsion Membrane shall be verified by dividing the volume (of Polymer Modified Emulsion Membrane used) by the area of paving for that day. No additional water shall be added to the Polymer Modified Emulsion Membrane.

**5.0 Method of Measurement.** Measurement of the crack sealing treatment will be made to the nearest gallon of Polymer Modified Emulsion Membrane or Scrub Seal Emulsion applied and accepted by the engineer, regardless of the method of application. Measurement will be in accordance with Sec 1015.

**6.0 Basis of Payment.** The accepted quantity of the crack seal treatment will be paid for at the contract unit price 413-99.12, Misc. Optional Surface Treatment, per gallon. No separate payment will be made for the sand used in the Scrub Seal option or for any additional construction methods, materials, or processes to fulfill the requirements of this provision.