

**ITEM 14  
FOG SEAL**

**14.1 DESCRIPTION**

This item shall consist of furnishing all material, equipment, labor and necessary items for the placement of fog seal on asphalt cement concrete pavement surfaces as shown on the plans.

**14.2 MATERIALS**

A quick set polymer modified emulsified asphalt shall be used for fog seal. The material shall conform to MSHTO M208 and ASTM D 2397 for CSS1h and the requirements in Table 14.2. The polymer material shall be milled or blended into the asphalt or blended into the emulsifier solution prior to the emulsification process. The cement mixing test shall be waived for this emulsion.

TABLE 14.2  
POLYMER MODIFIED EMULSIFIED ASPHALT

Property	Test Method	Design Limits
Residue After Distillation	AASHTO T59, ASTM D244	62% Min.
Softening Point (Residue)	MSHTO T53, ASTM D36	135° F (57° C) Min.
Penetration @ 77° F (Residue)	MSHTO T49, ASTM	40 to 90
Kinematic Viscosity (275° F) (Residue)	ASTM D2170	650 cSt Min.

Each load of emulsified asphalt shall be accomplished with a certificate of analysis/compliance

**14.3 EQUIPMENT**

All Equipment, tools, and machines used in the performance of this work shall be maintained in satisfactory working condition at all times to ensure a high quality product.

A self-propelled, heated distributor shall be used to apply the fog seal. The distributor shall be capable of heating and agitating the fog seal and applying the emulsion through

spray nozzles. The nozzles shall be capable of setting at angles of 15 to 30 degrees to apply a single coverage spray pattern at rates of 0.02 to 2.0 gallons per square yard.

#### **14.4 SURFACE PREPARATION**

Traffic control shall be provided at no additional cost and shall be in accordance with the *Manual of Uniform Traffic Control Devices*, latest edition. A traffic control plan shall be submitted to the **AGENCY** at least 10 days before any work is performed. The **AGENCY** will review the plan and may require adjustments to accommodate local conditions. There shall be no additional cost the **AGENCY** for traffic control.

A new surface must cure a minimum of four weeks prior to application. On old existing surfaces, proper repairs shall be performed prior to application

The ACCP surface shall be free of irregularities, cracks sealed, patched and cleaned to provide a smooth and uniform application surface. Immediately prior to application, the surface shall be cleaned of all vegetation, loose materials, dirt, mud or other extraneous material. Surface shall be cleaned using mechanically powered forced air sweepers, mechanical street sweepers, steel bristle brooms and/or high pressure water. The edges of existing pavements which will be adjacent to new pavement shall be cleaned to permit good adhesion. Surfaces shall be inspected and approved by the **AGENCY** prior to application of fog seal.

Ambient temperature shall be 60° F and rising and shall not fall below 60° F during the next 24 hours. The seal shall not be applied if rain is expected within 8 hours of application. The fog seal shall be applied within a material temperature range of 60 to 160° F.

The fog seal shall be applied with a uniform and continuous spread. The application rate of the fog seal shall be checked prior to placement by spraying a test section and measuring the dispersed gallons of seal. The application will be approved by the **AGENCY**. The application rate may be adjusted by the **AGENCY** throughout the project based on surface conditions and previously placed material. The fog seal shall not be applied at the junctions of spreads in excess of the quantity specified. Skipped areas and deficiencies shall be corrected. Quantities in excess of those specified will not be

measured for payment. Two applications shall be required. Apply second coat in the opposite direction to the first pass. Place second coat after a minimum of 2 hours cure. The minimum acceptable rate shall be 0.1 gallons per square yard.

Traffic should be detoured until the seal cures. Under normal drying conditions, traffic shall not be applied for 2 to 4 hours unless otherwise directed by the **AGENCY**.

**14.5 MEASUREMENT**

Fog seal will be measured by the ton. When volumetric measurements are used to determine the quantity of bituminous material furnished to the project, stored, or returned to the plant, the volume will be converted to weight by calculation of gallons per ton at 60° F (16° C). Water added at the site or mixing plant will not be measured for payment as emulsified asphalt.

**14.6 TESTING AND INSPECTION**

Testing of fog seal shall be performed in accordance with Table 14.6

**TABLE 14.6  
SCHEDULE FOR MINIMUM MATERIALS SAMPLING AND TESTING  
FOR ITEM 14- FOG SEAL**

Test Type	Test Standard	Minimum Frequency of Test
Application Rate		One measurement each 5,000 square yards of fog seal
Emulsified Asphalt	MSHTO M 208	One certificate of compliance for each load of emulsified asphalt.

## 14.7 PAYMENT

Payment for the fog seal shall include all equipment, supervision, labor, material, supplies, maintenance, and other items necessary to perform the items included in the specification.

Payment for the fog seal shall be based on tons of bituminous material. Should the product not meet specifications, the **CONTRACTOR** shall reapply the fog seal at no additional cost to the **AGENCY**.

Traffic control shall be provided and included within the amount and cost of this Item.

<u>Item</u>	<u>Description</u>	<u>Payment</u>
14.1	Fog Seal	\$/ton