

## PART 1 - GENERAL

### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

#### AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO T102 (1983) Spot Test of Asphaltic Materials

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 140 (1993) Sampling Bituminous Materials

ASTM D 977 (1991) Emulsified Asphalt

ASTM D 2397 (1994) Cationic Emulsified Asphalt

### 1.2 SUBMITTALS

Submit the following in accordance with Section 01330, "Submittal Procedures."

#### 1.2.1 SD- 10 Test Reports

- a. Certified test reports: For emulsified asphalt

### 1.3 DELIVERY AND STORAGE

Inspect the materials delivered to the site for contamination and damage. Unload and store the materials with a minimum of handling.

### 1.4 WEATHER LIMITATIONS

Apply the tack coat only when the surface is dry. Apply the tack coat only when the ambient temperature is 50 degrees F or above and when the temperature has not been below 35 degrees F for 12 hours immediately prior to application, unless otherwise directed.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

Bituminous material for the tack coat shall be emulsified asphalt.

#### 2.1.1 Emulsified Asphalt

ASTM D 977, Type SS- 1. Dilute the emulsified asphalt with equal parts of water. The base asphalt used to manufacture the emulsion shall show a negative spot when tested in accordance with AASHTO T102 using standard naphtha.

## 2.2 CONSTRUCTION EQUIPMENT

Provide equipment dependable and adequate for the purpose intended and properly maintained in satisfactory and safe operating condition. Calibrated equipment such as asphalt distributors, scales, batching equipment, spreaders and similar equipment, shall have been recalibrated by a calibration laboratory within 12 months prior to commencing work by such laboratory from the date of recalibration, during the term of the contract.

### 2.2.1 Bituminous Distributor

The bituminous distributor shall be designed and equipped to distribute the bituminous material uniformly at even heat on variable widths of surface at readily determined and controlled rates from 0.05 to 2.0 gallons per square yard, with a pressure range of 25 to 75 pounds per square inch and with an allowable variation not to exceed 5 percent from any specified rate. Distributor equipment shall include a separate power unit for the bitumen pump, full- circulation spray bars, tachometer, pressure gages, volume-measuring devices, adequate heaters for heating the materials to the proper application temperature, a thermometer for reading the temperature of the tank contents, and a hose and spray nozzle attachment suitable for applying bituminous material to spots unavoidably missed by the distributor and to areas inaccessible to the distributor. The distributor shall be equipped to circulate and agitate the bituminous material during the heating process.

### 2.2.2 Heating Equipment for Storage Tanks

The equipment for heating the bituminous material shall be steam, electric, or hot oil heaters. Steam heaters shall consist of steam coils and equipment for producing steam, so designed that the steam cannot get into the material. An armored thermometer with a temperature range from to 400 degrees F shall be fixed to the tank so that the temperature of the bituminous material may be determined at all times.

### 2.2.3 Brooms and Blowers

Brooms and blowers shall be of the power type suitable for cleaning the surfaces for application of the bituminous material.

## PART 3 - EXECUTION

### 3.1 PREPARATION OF SURFACE

Immediately before applying the tack coat, remove loose material, dirt, clay, and other objectionable material from the surface to be treated by a power broom or blower supplemented with hand brooms. After the cleaning operation and prior to the application of the tack coat, inspect the area to be paved to determine the fitness of the area to receive the bituminous material.

### 3.2 APPLICATION OF BITUMINOUS MATERIAL

Apply the tack coat when the surface to be treated is dry. Immediately following the preparation of the surface for treatment, apply the bituminous material by means of the bituminous distributor, within the limits of temperature specified herein and at a rate of not less than 0.05 gallon nor more than 0.15 gallon of diluted emulsion per square yard. Apply the bituminous material so that uniform distribution is obtained over the entire surface to be treated. Treat lightly coated areas and spots missed by the distributor with the bituminous material. Following the application of bituminous material, allow the surface to cure without being disturbed for period of time necessary to permit setting of the tack coat. Apply the bituminous tack coat only as far in advance of the placing of the overlying layer as required for

that day's operation. Maintain and protect the treated surface from damage until the succeeding course of pavement is placed.

### 3.2.1 Application Temperature for Emulsified Asphalt

Between 75 and 130 degrees F.

## 3.3 FIELD SAMPLING AND TESTING

### 3.3.1 Sampling Bituminous Materials

Furnish samples of bituminous materials for testing. Test in accordance with ASTM D 140.

### 3.3.2 Bituminous Material Tests

Perform spot test for asphalt in accordance with AASHTO T102 on each shipment.

## 3.4 TRAFFIC CONTROLS

Keep traffic off surfaces freshly treated with bituminous material. Provide sufficient warning signs and barricades so that traffic will not travel over freshly treated surfaces.

END OF SECTION