# SECTION 32 12 10.1

# BITUMINOUS TACK COAT

## 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 basic designation only. Unless specifically noted, the current edition of the reference will be used.

AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM)

| | |
|---|---|
| ASTM D 140 | Sampling Bituminous Materials |
| ASTM D 977 | Emulsified Asphalt |

### 1.2 SUBMITTALS

Government approval is required for all submittals. The following shall be submitted in accordance with Section 01 33 00; SUBMITTAL PROCEDURES:

SD-09 Reports

Tests; FIO.

Copies of all test results for bituminous materials shall be submitted to the Contracting Officer

### 1.3 PLANT, EQUIPMENT, MACHINES AND TOOLS

#### 1.3.1 General Requirements

Plant, equipment, machines, and tools used in the work shall be subject to approval and shall be maintained in a satisfactory working condition at all times. The equipment shall be adequate and have the capability of producing the required coverage as set forth herein.

#### 1.3.2 Bituminous Distributor

The distributor shall have pneumatic tires of such width and number than the load produced on the base surface shall not exceed 650 pounds per inch of tire width. The 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 of 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 from any specified rate not to exceed five percent. 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 materials to the proper application temperature, a thermometer for reading the temperature of tank contents, and a hose attachment suitable for applying bituminous material manually to cover areas inaccessible to the distributor. The distributor shall be equipped to circulate and agitate the bituminous material during the heating process.

### 1.3.3 Heating Equipment for Storage Tanks

The equipment for heating bituminous material shall consist of steam coils and equipment for producing steam, designed so that steam will not be introduced into the material. An armored thermometer with a range from 40 to 400 degrees F shall be fixed to the tank so that the temperature of the bituminous material may be read at all times.

### 1.3.4 Power Brooms and Power Blowers

Power brooms and power blowers shall be suitable for cleaning the surfaces to which the tack coat is to be applied.

## 1.4 WEATHER LIMITATIONS

The tack coat shall be applied only when the binder course, base course, or existing pavement is dry. The tack coat shall be applied only when the atmospheric temperature in the shade is 50 degrees F or above and when the temperature has not been below 35 degrees F for 12 hours.

## 1.5 DELIVERY AND STORAGE

Materials delivered to the site shall be inspected for damage; unloaded and stored with a minimum of handling.

# PART 2 PRODUCTS

## 2.1 BITUMINOUS MATERIAL

Bituminous material shall be asphalt conforming to ASTM D 977.

# PART 3 EXECUTION

## 3.1 PREPARATION OF SURFACE

Immediately before applying the tack coat, if the surface is sufficiently bonded, all loose material, dirt, clay, or other objectionable material shall be removed from the surface to be treated with a power broom or blower, supplemented with and

brooms. After cleaning operation, and prior to the application of the tack coat, an inspection of the area to be treated will be made by the Contracting Officer to determine the fitness of the area to receive the bituminous coating. Those portions of the surfaces that are prepared for immediate treatment shall be dry and shall be in a satisfactory condition.

## 3.2 APPLICATION RATE

Bituminous material for the tack coat shall be applied in quantities of not less than 0.05 gallon nor more than 0.15 gallon per square yard of intermediate course, base course, or existing pavement.

## 3.3 APPLICATION

Immediately following the preparation of the surface, the bituminous material shall be applied by means of a bituminous distributor or other approved methods in small areas.

The bituminous material shall be applied at a pressure within the range of 25 to 75 pounds per square inch in the amounts specified. The bituminous material shall be applied with uniform distribution at all points of the surface to be treated. Unless the distributor is equipped to obtain satisfactory results at the junction of previous and subsequent applications, building paper shall be spread on the surface for a sufficient distance back from the ends of each application so that flow through the sprays may be started and stopped on the paper and so that all sprays will operate at full force on the surface to be treated. Immediately after the application, the building paper shall be removed and destroyed. All lightly coated areas and spots missed by the distributor shall be properly treated with the bituminous material. Following the application of bituminous material, the surface shall be allowed to dry until it is proper condition of tackiness to receive the surfaces course. The tack coat shall be applied only so far in advance of surface-course placement as is necessary to obtain the proper condition of tackiness as determined by the Contracting Officer. The contractor shall furnish and spread a sufficient quantity of clean, dry sand on all areas that show an excess of bituminous material, to effectively blot up and cure the excess, when requested by the Contracting Officer. The contractor shall maintain the treated surface until the succeeding layer of pavement has been placed. During this interval the contractor shall protect the treated surface against damage and shall repair Contractor damaged spots at no additional cost to the Government.

## 3.4 SAMPLING AND TESTING

Sampling of bituminous material unless otherwise specified, shall be in accordance with the requirements of ASTM D 140.

Materials shall be tested to establish compliance with the specified requirements. Testing will be the responsibility of the contractor and shall be performed by an approved commercial testing laboratory. Before delivery of bituminous materials, certified copies of the test reports establishing compliance with specifications specified herein referenced publications shall be submitted to the Contracting Officer.

3.4.1 Calibration Test

The contractor shall furnish all equipment and materials needed to calibrate the tank and measuring devices of the distributor. This shall be done on the job at the beginning of the work.

3.4.2 Trial Applications

Preliminary to providing the complete tack coat, three lengths of at least 200 feet for the full width of the distributor bar shall be tacked. Bituminous materials in the amount of 0.10 gallon per square yard shall be used for one trial. Other trial applications shall be made using various amounts of material as may be deemed necessary.

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