

Item No. 307S
Tack Coat

307S.1 Description

This item shall govern the application of asphaltic material on completed base courses, existing pavement, bituminous surface, bridge deck, slab or prepared surface as indicated on the Drawings and as directed by the Engineer or designated representative. The application of asphaltic material on completed base courses shall only be applied after the prime coat has completely cured in accordance with Standard Specification Item No. 306S, "Prime Coat"

This specification is applicable for projects or work involving either inch-pound or SI units. Within the text, the inch-pound units are given preference followed by SI units shown within parentheses.

307S.2 Submittals

The submittal requirements of this specification item include:

- A. List of recommended materials (i.e. tack coat material, sand type, etc.).
- B. Temperature Viscosity data and proposed temperature of application.
- C. Characteristics (i.e. manufacturer, rate of application, speed, etc.) of the proposed pressure distributor including calibration documentation.
- D. List of facilities and equipment proposed for temperature measurements.
- E. List of facilities and equipment proposed for storage and handling of asphaltic materials.

307S.3 Materials

A. Asphalt Materials

The asphalt material for "Tack Coat" shall meet the requirements for Cutback Asphalt or Emulsified Asphalt, Standard Specification Item No. 301S, "Asphalts, Oils and Emulsions" as listed below. Cutback asphalt shall be made by combining 50 to 70 percent by volume of the asphaltic material as specified for the type of paving mixture with 30 to 50 percent by volume of gasoline and/or kerosene. The type of material shall be selected from the following table:

| Temperature of Surface, °F (°C) | 40 – 70 °F (5 to 21°C) | Over 70°F (Over 21°C) |
|---------------------------------|---------------------------|--------------------------|
| | RS-2 | SS-1 |
| | RS-2H | |
| | RC-250 | MC-70 |
| | CRS-2 | CSS-1 |
| | CRS-2H | CSS-1h |

B. Water

Water shall be furnished by the Contractor and shall be clean and free from industrial wastes and other objectionable matter.

C. Sand

Sand may be Grade 1 conforming to Standard Specification Item No. 403S, "Concrete Structures" or washed sand, largely siliceous, with the following gradation:

| Sieve Designation US | SI | Percent Retained by Weight (Mass) Natural Sand |
|-------------------------|---------|---|
| No. 8 | 2.36 mm | 0 |
| No. 16 | 1.18 mm | 0-40 |
| No. 30 | 600µm | 25-65 |
| No. 50 | 300µm | 65-85 |
| No. 100 | 150µm | 85-98 |
| No. 200 | 75µm | 98-100 |

There shall not be more than 50 percent of the aggregate retained between any 2 sieves listed above and not more than 25 percent of the aggregate retained between the No. 50 (300 µm) and the No. 100 (150 µm) sieves.

307S.4 Construction Methods

Tack coat shall be applied when the surface on which the tack coat is to be placed is 60° F (16°C) or above and the air temperature is above 50°F (10°C) and rising, where the air temperature is measured in the shade and away from any artificial heat. Asphaltic material shall not be placed when general weather conditions, in the opinion of the Engineer or designated representative, are not suitable.

Before the tack coat is applied, the surface shall be cleaned thoroughly to the satisfaction of the Engineer or designated representative. The asphaltic material shall be applied on the clean surface by an approved type of self-propelled pressure distributor, so operated as to distribute the tack coat at a rate not to exceed 0.10 gallon per square yard (0.45 liters per square meter) of surface, evenly and smoothly with sufficient pressure to provide proper distribution.

In those instances where the pavement mixture will adhere to the surface on which it is to be placed without the use of a tack coat, the tack coat may be eliminated by the Engineer or designated representative. All contact surfaces of curbs and structures and all joints shall be cleaned thoroughly and painted with a thin uniform coat of the asphaltic material used for tack coat. The tack coat shall be rolled with a pneumatic tire roller to distribute the asphaltic material uniformly over the tacked area. During the application of tack coat, care shall be taken to prevent splattering of adjacent pavement, curb and gutters or structures. The Contractor shall clean splattered areas.

The distributor shall have been calibrated within three (3) years from the date it is first used on this project. The Engineer or designated representative shall be

furnished an accurate and satisfactory record of such calibration. After beginning of the work, if the yield on the asphaltic material applied appears in error, the distributor shall be calibrated in a manner satisfactory to the Engineer or designated representative before proceeding with the work.

The Contractor shall provide all necessary facilities and equipment for determining the temperature of the asphaltic material in all of the heating equipment and in the distributor, for determining the rate at which it is applied, and for securing uniformity at the junction of two (2) distributor loads.

The Contractor shall be responsible for the maintenance of the surface until the HMAC is placed over the tack coat or the work is accepted by the Engineer or designated representative. No traffic, hauling or placement of any subsequent courses shall be permitted over the freshly applied tack coat unless it is blotted by the application of sand as directed by the Engineer or designated representative.

All storage tanks, piping, retorts, booster tanks and distributors used in storing or handling asphaltic material shall be kept clean and in good operating condition at all times and they shall be operated in such a manner that there will be no contamination of the asphaltic material with foreign material. It shall be the responsibility of the Contractor to provide and maintain in good working order a recording thermometer at the storage heating unit at all times.

The Contractor shall apply the asphalt at a temperature that will permit application of the asphalt within the limits recommended in Standard Specification Item No 301S, "Asphalts, Oils and Emulsions". The application temperature shall be within 15⁰ F (8⁰C) of 160⁰ F (71⁰C).

307S.5 Measurement

The asphaltic material for "Tack Coat" will be included in the unit price bid for Standard Specification Item 340S, "Hot Mix Asphaltic Concrete Pavement" unless included as a separate pay item in the contract. When included for payment, "Tack Coat" shall be measured at point of delivery on the project in gallons (liters: 1 liter equals 0.264 gallons) at the applied temperature. The quantity to be paid for shall be the number of gallons used.

307S.6 Payment

The work performed and materials furnished as prescribed by this item, when included as a contract pay item, will be paid for at the unit bid price per gallon for "Tack Coat". The price shall include full compensation for cleaning the area to receive the "Tack Coat"; for furnishing, heating, hauling and distributing the tack coat specified; for all freight involved and for all manipulations, labor, tools, equipment and incidentals necessary to complete the work.

Payment, when included as a contract pay item, will be made under:

| | | |
|---------------------------|-------------|------|
| Pay Item No. 307S: | Tack | Coat |
| | Per Gallon. | |

End

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| <u>SPECIFIC</u> CROSS REFERENCE MATERIALS |
| Specification Item 307S "Tack Coat" |

City of Austin Standard Specifications

| <u>Designation</u> | <u>Description</u> |
|---------------------------|-------------------------------------|
| Item No. 301S | Asphalts, Oils and Emulsions |
| Item No. 340S | Hot Mix Asphaltic Concrete Pavement |

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|---|
| <u>RELATED</u> CROSS REFERENCE MATERIALS |
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City of Austin Standard Specifications

| <u>Designation</u> | <u>Description</u> |
|---------------------------|------------------------------|
| Item No. 206S | Asphalt Stabilized Base |
| Item No. 210S | Flexible Base |
| Item No. 306S | Prime Coat |
| Item No. 310S | Emulsified Asphalt Treatment |
| Item No. 311S | Emulsified Asphalt Repaving |
| Item No. 320S | Two Course Surface Treatment |

City of Austin Standard Details

| <u>Designation</u> | <u>Description</u> |
|---------------------------|--|
| 1000S-10 | Local Street Sections |
| 1000S-11(1) | Residential and Neighborhood collector Street Sections |
| 1000S-11(2) | Industrial and Collector Street Sections |
| 1000S-12(1) | Primary Collector Street Sections |
| 1000S-12(2) | Primary Arterial Street Sections |
| 1000S-13(1) | Minor Arterial Street Sections (4 Lanes) |
| 1000S-13(2) | Minor Arterial Street Sections- (4 Lanes divided) |
| 1000S-14 | Major Arterial Street |

Texas Department of Transportation: Standard Specifications for Construction

And Maintenance of Highways, Streets, and Bridges

| <u>Designation</u> | <u>Description</u> |
|---------------------------|--|
| Item 300 | Asphalts, Oils and Emulsions |
| Item 301 | Asphalt Antistripping Agents |
| Item 310 | Prime Coat (Cutback Asphaltic Materials) |
| Item 314 | Emulsified Asphalt Treatment |
| Item 345 | Asphalt Stabilized Base (Plant Mixed) |
| Item 520 | Weighting and Measuring Equipment |