

Section 02744**SINGLE COURSE SURFACE TREATMENT****1.0 GENERAL****1.01 SECTION INCLUDES**

- A A wearing surface, also known as Seal Coat or Chip-Seal, composed of a single application of asphaltic material, covered with aggregate, constructed on a prepared surface or base course.

- B References to Technical Specifications:
 - 1. Section 01100 – Summary of Work
 - 2. Section 01200 – Measurement and Payment Procedures
 - 3. Section 01350 – Submittals
 - 4. Section 02980 – Pavement Repair

- C Referenced Standards:
 - 1. Texas Department of Transportation (TxDOT)
 - a. Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, 2004 Adoption
 - 1) Item 300, “Asphalts, Oils, and Emulsions”
 - 2) Item 302, “Aggregates for Surface Treatments”
 - 3) Item 316, “Surface Treatments”
 - 4) Item 210, “Rolling”

1.02 MEASUREMENT AND PAYMENT

- A Measurement for Single Course Surface Treatment is on square yard basis, measured and completed in place. Payment includes materials, equipment, preparation, and work associated with the application of the Surface Treatment.

- B Unless indicated as a Bid Item, no separate payment will be made for repair of failed or defective areas of pavement prior to resurfacing.

- C If paving repair is included as a Bid Item, measurement is on a square yard basis. The limits are as defined in Section 01100 – Summary of Work, or as shown on Plans.

- D Refer to Section 01200 – Measurement and Payment Procedures.

1.03 SUBMITTALS

- A Make Submittals required by this Section under the provisions of Section 01350 - Submittals.

- B Submit test results and certifications that asphaltic materials and aggregates meet requirements of this Section prior to use.

- C Submit manufacturer's description and characteristics of aggregate spreading and finishing machine(s) for approval.
- D Submit calibration report of emulsion distributor. The requirement of this submittal may be waived by Engineer when a computer controlled distributor is used.

2.0 PRODUCTS

2.01 EMULSION

- A Asphaltic material shall conform to the requirements of TxDOT, Item 300, "Asphalts, Oils, and Emulsions".
- B The asphaltic material shall be Grade CRS-1P or CRS-2P
 1. The CRS-1P shall be a rapid setting, cationic emulsion for use in placing surface treatments when the air temperature is between 40°F and 70°F.
 2. The CRS-2P shall be a rapid setting, cationic emulsion for use in placing surface treatments when the air temperature is 60°F and rising.
- C The emulsion shall break and cure in a reasonable amount of time when the aggregate is applied, regardless of sunlight or humidity conditions.

2.02 AGGREGATE

- A Aggregate material shall conform in type, grade, classification, and quality to the requirements of TxDOT, Item 302, "Aggregates for Surface Treatments". Samples submitted for testing shall be taken from stockpiles located on the Project Site.
- B Stockpile aggregate separately. Take necessary steps to prevent stockpiles from being contaminated. Do not add materials to approved stockpiles without the Engineer's approval.
- C When tested by TxDOT, Tex-200-F, Part 1, the aggregate gradation shall meet the requirements in the table below for the specified grade:

**Aggregate Gradation Requirements
(Cumulative % Retained)**

SIEVE SIZE	GRADE 3	GRADE 4
¾ in	0	
⅝ in	0 – 2	0
½ in	20 – 40	0 – 5
⅜ in	80 – 100	20 – 40
¼ in	95 – 100	–
#4	–	95 – 100
#8	99 – 100	98 – 100

2.03 EQUIPMENT

- A Equipment used in each phase of application shall conform to the requirements of TxDOT, Article 316.3 "Equipment".

3.0 EXECUTION**3.01 EXAMINATION**

- A Verify compacted base or prepared surface is ready to support imposed loads.
- B Verify lines and grades are correct.

3.02 PREPARATION

- A All holes, ruts, depressions, or other defects in the surface shall be repaired and defective areas cleaned out by scarifying or acceptable hand methods under the provisions of Section 02980 – Pavement Repair.
- B Fill defects with new material of the same character, or other materials approved by the Engineer, the road surface shall be compacted by rolling or tamping so that a smooth, hard, well cemented surface, conforming to the lines, grade, and typical cross-section shown on the plans is secured.
- C After the patches have been allowed to set-up under traffic, sweep the surface of the roadway clean from dirt, dust, and other deleterious matter by means of mechanical, rotary street sweeper, hand brooms, or compressed air.
- D Before any asphaltic material is applied, all cakes of dust or clay and all foreign matter shall be removed and the surface thoroughly cleaned until the embedded aggregate is cleaned but not discharged or loosened.
- E The surface may be lightly sprinkled just prior to application of the asphalt if found necessary by the Engineer.

3.03 APPLICATION

- A Air temperature shall be taken in the shade and away from artificial heat.
 - 1. Treatment may be applied when air temperature is above 40°F and rising.
 - 2. Do not apply treatment when air temperature is below 50°F and falling.
 - 3. Do not apply treatment when roadway surface temperature is below 60°F.
 - 4. When, in the opinion of the Engineer, general weather conditions are not suitable, do not apply treatment.
- B When Grade 3 aggregate is specified, the asphaltic material shall be applied on the prepared surface at a rate of approximately 0.35 gallons per square yard.
- C When Grade 4 aggregate is specified, the asphaltic material shall be applied on the prepared surface at a rate of approximately 0.30 gallons per square yard.

- D When Type B (crushed gravel, crushed slag, crushed stone, or limestone rock asphalt) aggregate is specified, the rate of spread shall be one cubic yard to each 90 square yards of surface area.
- E When Type PB (precoated crushed gravel, crushed slag, crushed stone, or limestone rock asphalt) aggregate is specified, the rate of spread shall be one cubic yard to each 95 square yards of surface area.
- F The surface shall be thoroughly rolled as soon as aggregate is applied with a self-propelled light, pneumatic roller in accordance with applicable sections of TxDOT, Item 316, "Surface Treatment" and TxDOT, Item 210, "Rolling".
- G The Contractor shall repair all fatty areas with additional cover material and all lean areas by adding asphalt to the extent that a uniformly dense treatment is finally obtained. Should depressions, unevenness, or irregular spots develop on the surface, they shall be remedied and the surface brought to true grade and cross-section.
- H The surface shall be broomed to remove excess aggregate as soon as aggregate has sufficiently bonded. Brooming shall be repeated the following work day.

3.04 PROTECTION OF THE WORK

- A No traffic or placing of subsequent courses shall be permitted over freshly applied tack coat until authorized by the Engineer.
- B Contractor is responsible for maintaining Single Course Surface Treatment until Owner accepts the Work.

END OF SECTION