

Special Specification 3071

Underseal Course



1. DESCRIPTION

Construct an underseal course using a Tracking-Resistant Asphalt Interlayer (TRAIL), a Spray Applied Underseal Membrane, or a single layer of Seal Coat.

2. MATERIALS

2.1. Furnish the materials for one of the following options:

2.1.1. **TRAIL.** Furnish asphalt material described as "seal" for typical use in the TRAIL Material Producer List. Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use.

2.1.2. **Spray Applied Underseal Membrane.** Furnish asphalt material meeting the requirements of Special Specification 3002, "Spray Applied Underseal Membrane." Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use.

2.1.3. **Seal Coat.** Furnish asphalt and aggregate materials meeting the requirements of Item 316, "Seal Coat." Use a polymer modified asphalt or emulsion and aggregate as shown on the plans. Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use.

2.2. Furnish the material for applying tack coat to all miscellaneous contact surfaces when approved by the Engineer:

2.2.1. **Tack Coat.** Furnish CSS-1H, SS-1H, or a PG binder with a minimum high-temperature of PG 58 for tack coat binder in accordance with Item 300, "Asphalts, Oils, and Emulsions." TRAIL asphalt may be allowed. Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use.

2.3. **Sampling.** The Engineer will obtain at least one sample of each binder per project in accordance with Tex-500-C, Part III, and test it to verify compliance with Item 300, "Asphalts, Oils, and Emulsions" or Special Specification 3002, "Spray Applied Underseal Membrane."

3. EQUIPMENT

3.1. **TRAIL.** Provide the equipment recommended by the producer.

3.2. **Spray Applied Underseal Membrane.** Provide in accordance with Special Specification 3002, "Spray Applied Underseal Membrane."

3.3. **Seal Coat.** Provide in accordance with Item 316, "Seal Coat."

4. CONSTRUCTION

4.1. **Preparation.** Remove existing raised pavement markers. Repair any damage incurred by removal as directed. Remove dirt, dust, or other harmful material before sealing. When shown on the plans, remove vegetation and blade pavement edges. When approved by the Engineer, apply a thin, uniform tack coat to all miscellaneous contact surfaces such as curbs, structures, and manholes. Prevent splattering of the tack coat when placed adjacent to curb, gutter, and structures.

- 4.2. **TRAIL.** Perform the following construction methods when applying a TRAIL for an underseal course:
- 4.2.1. **Placement.** Uniformly apply the TRAIL material at the rate directed, within 15°F of the approved temperature, and not above the maximum allowable temperature. Unless otherwise directed, apply the TRAIL material at a minimum rate specified on the plans. The Engineer may adjust the application rate taking into consideration the existing pavement surface conditions.
- 4.3. **Spray Applied Underseal Membrane.** Place in accordance with Special Specification 3002, "Spray Applied Underseal Membrane."
- 4.3.1. **Placement.** Do not allow any loose mixture onto the prepared surface before to application of the membrane. Unless otherwise directed, uniformly apply the membrane at a minimum rate specified on the plans. The Engineer may adjust the application rate, taking into consideration the existing pavement surface conditions.
- 4.4. **Seal Coat.** Place in accordance with Item 316, "Seal Coat."
- 4.4.1. **Placement.** Unless otherwise directed, apply the asphalt material at a minimum rate as specified on the plans. The Engineer may adjust the application rate, taking into consideration the existing pavement surface conditions.
- 4.5. **Informational Shear Test.** Obtain one set of three core specimens per project within one working day of the time the lot placement is completed. The Engineer will select the core locations. Provide the cores to the Engineer in a container labeled with the Control-Section-Job (CSJ) and lot number. The district will determine the shear bond strength between the two bonded pavement layers in accordance with Tex-249-F. Results from these tests will not be used for specification compliance.
- 4.6. **Nonuniform Application.** Stop application if it is not uniform due to streaking, ridging, pooling, or flowing off the roadway surface. Verify equipment condition, operating procedures, application temperature, and material properties. Determine and correct the cause of non-uniform application.
- 4.7. **Test Strips.** The Engineer may perform independent tests to confirm contractor compliance and may require testing differences or failing results to be resolved before resuming production.

The Engineer may stop the application and require construction of test strips at the Contractor's expense if any of the following occurs:

- Non-uniformity of application continues after corrective action;
- Evidence of tracking or picking up of the TRAIL;
- In 3 consecutive shots, application rate differs by more than 0.03 gallons per sq. yd. from the rate directed; or
- Any shot differs by more than 0.05 gallons per sq. yd. from the rate directed.

The Engineer will approve the test strip location. The Engineer may require additional test strips until surface treatment application meets specification requirements.

5. MEASUREMENT

- 5.1. Asphalt Material.
- 5.1.1.1. **Volume.** The asphalt material, including all components, will be measured at the applied temperature by strapping the tank before and after road application and determining the net volume in gallons from the

distributor's calibrated strap stick. The Engineer will witness all strapping operations for volume determination.

If the meter and readout device is accurate within 1.5% of the strapped asphalt volume, the Engineer may allow use of the meter and readout to determine asphalt volume used and application rate.

The Engineer may require redetermination of meter readout at any time and will require volume determinations by strapping if the meter is not accurate to within 1.5% of strapped volume.

- 5.2. **Aggregate.** The work performed, materials furnished, equipment, labor, tools, and incidentals will not be paid for directly but will be subsidiary.
- 5.3. **Quantity Adjustments.** Quantity based price adjustment factors are not applicable to compensate for over and under runs resulting from the method chosen.

6. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Underseal Course." These prices are full compensation for surface preparation; furnishing, preparing, hauling, tack coat used for all miscellaneous contact surfaces, and placing materials; removing existing pavement markers and excess aggregate; rolling; cleaning up stockpiles; and equipment, labor, tools, and incidentals.