

## SECTION 482—SLURRY SEAL

**482.1 DESCRIPTION**—This work is construction of a bituminous slurry seal course of the type designated.

**482.2 MATERIAL**—

(a) **Bituminous Material.** Emulsified Asphalt, Class SS-1h(E-8A), or CSS-1h(E-8C), [Section 702](#).

(b) **Fine Aggregate.** [Section 703.1](#)

Provide aggregate with the SRL designation in the Contract Item. Supply the aggregate from an acceptable source for use in wearing courses. The Contractor may supply an aggregate or aggregate blend with an SRL equal to or better than in the Contract Item. Blends are 50% by mass (weight) of each aggregate. Mix aggregates by an approved method.

(c) **Filler.** [Section 703.1\(c\)1](#)

(d) **Water.** [Section 720.2](#), and free from harmful soluble salts. If water exceeds 150 g/m<sup>3</sup> (150 ppm (9 grains)) hardness, lower to below 150 g/m<sup>3</sup> (150 ppm (9 grains)) by adding water softener.

(e) **Mixture Composition.** Design and test the slurry seal mixture according to [ASTM D 3910](#).

Provide fine aggregate, asphalt emulsion, water, and, if required, filler conforming to the Representative directed composition by mass (weight) percentages that are within the limits of Table A. Furnish a mix as specified in [Section 401.2\(e\)](#).

**TABLE A**  
**Composition by Mass (Weight) Percentages**  
**Combined Aggregate Gradations**

Passing Sieve	Percentages by Mass (Weight)		
	Type I	Type II	Type III
9.5 mm (3/8-inch)	100	100	100
4.75 mm (No. 4)	100	90 - 100	70 - 90
2.36 mm (No. 8)	90 - 100	65 - 90	45 - 70
1.18 mm (No. 16)	65 - 90	45 - 70	28 - 50
600 μm (No. 30)	40 - 60	30 - 50	19 - 34
300 μm (No. 50)	25 - 42	18 - 30	12 - 25
150 μm (No. 100)	15 - 30	10 - 21	7 - 18
75 μm (No. 200)	10 - 20	5 - 15	5 - 15
<b>Asphalt Residue Percent by Mass (Weight) of Dry Aggregate</b>	10.0 - 16.0	7.5 - 13.5	6.5 - 12.0

**1. Type I.** Use to seal cracks, fill voids, and correct surface erosion. Apply dry aggregate at a rate from 3 kg/m<sup>2</sup> to 5 kg/m<sup>2</sup> (6 pounds per square yard to 10 pounds per square yard).

**2. Type II.** Use to fill surface voids, correct severe surface erosion conditions, and provide a minimum wearing surface. Apply dry aggregate at a rate of 5 kg/m<sup>2</sup> to 8 kg/m<sup>2</sup> (10 pounds per square yard to 15 pounds per square yard).

**3. Type III.** Use to provide a new moderate wearing surface or to build up a crown. Apply dry aggregate at a rate of 8 kg/m<sup>2</sup> (15 pounds per square yard) or more.

**482.3 CONSTRUCTION—**

**(a) Weather Limitations.** As specified in [Section 401.3\(b\)](#), except do not place mixture if the air temperature is 10 °C (50F) or lower, or if the pavement temperature is 10 °C (50F) or lower.

**(b) Equipment Requirements.** Produce the mixture in a self-propelled, continuous-flow mixing apparatus capable of accurately proportioning, combining, and mixing the materials into a homogeneous mixture with an asphalt film of sufficient thickness to furnish the desired binding properties.

Use an apparatus that contains bins, tanks, and receptacles of sufficient size and volume; proportioning feeders; liquid measuring meters or devices; and a mechanical mixer and distributor for placing the finished mixtures. Materials are to be delivered to the mixer simultaneously and in time-adjusted sequence by integrated, mechanized, and synchronized components.

**(c) Mixer.** A mixer of the spiraled, multi-blade type, or other acceptable type, with the following components, is required:

- mixing chamber having a stated capacity (not to be exceeded);
- mechanical equipment to regulate mixing time up to, but not exceeding, 4 minutes;
- equipment to pre-wet the aggregate before aggregate contact with asphalt emulsion; and
- a gate for controlling discharge of mixture into the distributor spreader.

**(d) Spreading Equipment.**

**1. Distributor.** A mechanically-operated, squeegee-type distributor is required, one which is integrally assembled with the slurry mixer and which includes the following:

- a strike-off, lined with flexible material to prevent loss of slurry mixture during spreading;
- a strike-off, with vertical adjustment available for changing grade and cross slope to ensure uniform spreading of mixture; and
- a pressure system and a fog-type spray bar, adequate for placing a complete fog coat of water over pavement surface immediately preceding spreading of mixture, with a maximum  $0.23 \text{ L/m}^2$  (0.05 gallon per square yard) application rate of water.

**2. Auxiliary Equipment.** Provide hand squeegees, shovels, surface-cleaning machines, and other hand equipment, as necessary.

**(e) Conditioning of Existing Surface.** [Section 401.3\(g\)1](#), except:

- Seal open joint and cracks with an acceptable crack sealer or emulsion.
- In addition to the surface cleaning specified, also remove heavy paint build-up.
- Cover and satisfactorily protect existing raised pavement markers.
- Replace damaged markers.

**(f) Placement.** Control the temperature of the components of the completed mixture so application temperature of the slurry seal is within the range designated, but not less than 10 °C (50F) or more than 50 °C (125F).

**(g) Joints.**

**1. Transverse Joints.** Construct by either overlapping previously cured slurry with 3 m to 4.6 m (10 feet to 15 feet) of fresh slurry, or by lightly wetting the area the spreader box will touch, while the slurry is in a completely uncured, semi-fluid condition.

**2. Longitudinal Joints.** Construct as follows:

Do not wet the slurry if it is completely uncured. Pull a burlap bag, or other suitable device, along the joint seam, to cause fresh slurry from the spreader box to distribute itself evenly over the joint.

Wet the slurry with the spring bar, if the slurry is completely cured.

**(h) Curing.** Do not allow traffic on the surface until directed, to allow the slurry seal to completely cure to a firm condition that will prevent pick-up of the mixture.

**482.4 MEASUREMENT AND PAYMENT—Square Meter (Square Yard)**