

HOT-MIX ASPHALT – FULL LANE SEALANT (EXPERIMENTAL FEATURE)(CBM)

Effective: June 1, 2018

Add the following to Article 406.03 of the Standard Specifications.

- “(m) Full Lane Sealant Pressure Distributor with Mixing (Note 4)
- “(n) Full Lane Sealant Pressure Distributor without Mixing (Note 5)

Note 4. When a pressure distributor with mixing is used to apply the full lane sealant, the distributor shall be equipped with a heating and recirculating system along with a functioning auger agitating system or vertical shaft mixer in the hauling tank to prevent localized overheating.

Note 5. When a pressure distributor without mixing is used to apply the full lane sealant, the distributor shall be according to Article 406.03(f).”

Add the following to the end of Article 406.05(b) of the Standard Specifications.

- “(3) Full Lane Sealant for HMA bases. The base shall be cleaned of all dust, debris, and any substance that will prevent the full lane sealant from adhering to the base. Cleaning shall be accomplished by air blasting, air jets or other mechanical sweepers or vacuums to remove all dust and foreign matter. The base shall be dry for 24 hours prior to application of full lane sealant and no rain in the forecast for 24 hours following application. If rain is anticipated but cannot be avoided, the full lane sealant shall be covered immediately following its application with fine aggregate mechanically spread at a uniform rate of 2 to 4 lb/sq yd (1 to 2 kg/sq m). The full lane sealant shall be applied uniformly and at a rate that will provide the residual rate on the prepared surface as specified in the following table.

Type of Surface to be Full Lane Sealed	Residual Asphalt Rate lb/sq ft (kg/sq m)
Milled HMA, Aged, Non-Milled HMA, Milled Concrete, Non-Milled Concrete, Tined Concrete, and HMA Lifts, IL-4.75	0.13 (0.634)

Full lane sealant shall fully cure in less than 5 minutes. HMA may be placed after 5 minutes. If after five days, loss of full lane sealant is evident prior to covering with HMA, additional full lane sealant shall be placed as determined by the Engineer at no additional cost to the Department.

The residual asphalt rate will be verified a minimum of once per type of surface to be full lane sealed as specified herein for which at least 2000 tons (1800 metric tons) of HMA will be placed. The test will be according to the “Determination of Residual Asphalt in Prime and Tack Coat Materials” test procedure.

The Contractor shall furnish to the Engineer a bill of lading for each tanker supplying material to the project.”

Add the following to Section 1032 of the Standard Specifications.

“**1032.13 Full Lane Sealant.** Full lane sealant will be accepted according to the current Bureau of Materials and Physical Research Policy Memorandum, “Performance Graded Asphalt Binder Acceptance Procedure” with the following exceptions. Articles 3.1.9 and 3.4.1.4 of the policy memorandum will be excluded. The bituminous material used for the full lane sealant shall be according to the following table. Elastomers shall be added to a base asphalt and shall be either a styrene-butadiene diblock or triblock copolymer without oil extension, or a styrene-butadiene rubber. Air blown asphalt and acid modification will not be allowed.

Test	Test Requirement	Test Method
Dynamic shear @ 88°C (unaged), G*/sin δ, kPa	1.00 min.	AASHTO T 315
Creep stiffness @ -18°C (unaged), Stiffness (S), MPa m-value	300 max. 0.300 min.	AASHTO T 313
Elastic Recovery, 100 mm elongation, cut immediately, 25°C, %	70 min.	ASTM D 6084 (Procedure A)
Separation of Polymer, Difference in °C of the softening point (ring and ball)	3 max.	ITP Separation of Polymer from Asphalt Binder”

Method of Measurement. Bituminous material for full lane sealant will be measured for payment as specified in Section 1032.

Basis of Payment. Full lane sealant will be paid for at the contract unit price per pound (kilogram) of residual asphalt for BITUMINOUS MATERIALS (FULL LANE SEALANT).