

401-R-417 HMA SPRAY PAVER AND EMULSION

(Revised 01-20-22)

The Standard Specifications are revised as follows:

SECTION 401, BEGIN LINE 23, INSERT AS FOLLOWS:

**401.03 Materials**

Materials shall be in accordance with the following:

<i>Asphalt Emulsion</i> .....	902.01(b)2
Asphalt Materials	
PG Binder.....	902.01(a)
Coarse Aggregates .....	904.03
Base Mixtures – Class D or Higher	
Intermediate Mixtures – Class C or Higher	
Surface Mixtures* – Class B or Higher	
Fine Aggregates .....	904.02
Stabilizing Additives.....	AASHTO M 325

\*Surface aggregate requirements are listed in 904.03(d).

SECTION 401, BEGIN LINE 378, DELETE AND INSERT AS FOLLOWS:

Rubblized concrete pavements shall be primed in accordance with 405. PCCP, milled asphalt surfaces, and new and existing asphalt surfaces shall be tacked in accordance with 406, *except surfaces shall be tacked in accordance with 401.14 when mixture is placed with paving equipment in accordance with 409.03(c)4*. Contact surfaces of curbing, gutters, manholes, and other structures shall be tacked in accordance with 406.

SECTION 401, BEGIN LINE 399, INSERT AS FOLLOWS:

**401.14 Spreading and Finishing**

*The mixture placed on a shoulder, approach, taper, or gore area shall be placed by means of laydown equipment in accordance with 409.03(c)1, 409.03(c)2, or 409.03(c)3 and tacked in accordance with 406 and 409.03(a). No additional payment will be made if the Contractor elects to use equipment and materials in accordance with 409.03(c)4 and 902.01(b)2.*

The mixture placed on all travel lanes, turn lanes, auxiliary lanes, and ramps which are 11 ft or more in width shall be placed upon an approved surface by means of laydown equipment in accordance with 409.03(c)4. *This shall include a mixture placed simultaneously with a travel lane, turn lane, auxiliary lane, or ramp.*

*The spray paver emulsion, in accordance with 902.01(b)2, shall be applied at a temperature recommended by the emulsion supplier and applied uniformly across the entire width of pavement to be overlaid. Equipment shall not operate on the applied emulsion before the asphalt mix is placed.*

*The asphalt emulsion spray bar affixed to the spray paver shall not be turned off while applying the HMA except when passing over the plate sampling area. The plate sampling area shall be defined as 3.0 ft or less from the first edge of the plate sample encountered going upstream and continuing to 3.0 ft or less from the last edge of the plate*

sample encountered going upstream. This shall include any Contractor plate samples. Tack coat will not be required in the plate sampling area.

The application rates of the spray paver emulsion are shown in the table below.

<i>Spray Paver Emulsion Application Rate and Adjustment Factors for Surface Conditions</i>			
<i>Mixture Designation</i>	<i>19.0 mm or 25.0 mm</i>	<i>12.5 mm</i>	<i>9.5 mm</i>
<i>Tack Emulsion Application Rate, gal./sq yd</i>	<i>0.25</i>	<i>0.20</i>	<i>0.17</i>
<i>Existing Surface Condition</i>	<i>Adjustment to application rate, gal./sq yd</i>		
<i>PCCP, smooth or polished</i>	<i>-0.03</i>	<i>-0.03</i>	<i>-0.03</i>
<i>PCCP, broomed or textured</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Flushed asphalt concrete surface</i>	<i>-0.02</i>	<i>-0.03</i>	<i>-0.03</i>
<i>Dense, unaged asphalt concrete surface</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Open textured, dry, aged or oxidized asphalt concrete surface</i>	<i>+0.02</i>	<i>+0.01</i>	<i>+0.01</i>
<i>Milled asphalt concrete surface</i>	<i>+0.02</i>	<i>+0.01</i>	<i>+0.01</i>

A pre-paving meeting between the Engineer and the Contractor shall be held on-site prior to beginning work. The following shall be reviewed:

- (a) work schedule
- (b) traffic control plan
- (c) equipment calibrations and adjustments
- (d) inspection and evaluation of the condition and adequacy of equipment, including units for transport of materials
- (e) design mix formula
- (f) the Contractor's proposed emulsion and mix application rates
- (g) QCP in accordance with ITM 803
- (h) the Contractor's authorized representative.

Prior to paving, both the planned quantity and lay rate shall be adjusted by multiplying by the MAF. When mixture is produced from more than one DMF for a given pay item, the MAF will be applied to the applicable portion of the mixture for each. The temperature of each mixture at the time of spreading shall be less than 315°F whenever PG 64-22 or PG 70-22 binders are used or not more than 325°F whenever PG 76-22 binder is used. No mixture shall be placed on a previously paved course that has not cooled to below 175°F. For mixtures compacted in accordance with 402.15, the temperature of each mixture at the time of spreading shall not be less than 245°F.

SECTION 401, BEGIN LINE 425, INSERT AS FOLLOWS:

HMA mainline and HMA shoulders which are 8 ft or more in width shall be placed with paving equipment in accordance with 409.03(c)1 or 409.03(c)4.

SECTION 401, AFTER LINE 915, INSERT AS FOLLOWS:

*Spray paver emulsion will be measured by the ton.*

SECTION 401, AFTER LINE 932, INSERT AS FOLLOWS:

*The accepted quantities of spray paver emulsion will be paid for at the contract unit price per ton, complete in place.*

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit Symbol</b>
Joint Adhesive, _____ course type	LFT
HMA Spray Paver Emulsion	TON
Liquid Asphalt Sealant	LFT
Profilograph, HMA	LS
QC/QA-HMA, _____, _____, _____, _____ mm (ESAL <sup>(1)</sup> ) (PG <sup>(2)</sup> ) (Course <sup>(3)</sup> ) (Mix <sup>(4)</sup> )	TON

- (1) ESAL Category as defined in 401.04
- (2) Number represents the high temperature binder grade. Low temperature grades are - 22
- (3) Surface, Intermediate, or Base
- (4) Mixture Designation

SECTION 409, AFTER LINE 84, INSERT AS FOLLOWS:

**4. Spray Paver**

*The paver shall be in accordance with 409.03(c)1 except as follows:*

- (a) *The paver shall be self-priming, designed and built for applying the HMA and the asphalt emulsion simultaneously. The paver shall have a receiving hopper, feed system, asphalt emulsion storage tank, a calibrated metering system for measuring the emulsion volume applied, spray bar and a heated, variable width, combination vibratory screed or a combination vibratory-tamping bar screed.*
- (b) *The paver shall be capable of spraying the asphalt emulsion, applying the asphalt mix and leveling the surface of the mat in one pass.*