

410-R-418 SMA SPRAY PAVER AND EMULSION

(Revised 05-20-23)

The Standard Specifications are revised as follows:

SECTION 410, BEGIN LINE 21, INSERT AS FOLLOWS:

410.03 Materials

Materials shall be in accordance with the following:

Asphalt Emulsion902.01(b)2

SECTION 410, BEGIN LINE 240, DELETE AND INSERT AS FOLLOWS:

Milled asphalt surfaces and 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 410, BEGIN LINE 253, INSERT AS FOLLOWS:

410.14 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 a paver or other mechanical devices 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</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>	-0.03	-0.03	-0.03
<i>PCCP, broomed or textured</i>	0	0	0
<i>Flushed asphalt concrete surface</i>	-0.02	-0.03	-0.03
<i>Dense, unaged asphalt concrete surface</i>	0	0	0
<i>Open textured, dry, aged or oxidized asphalt concrete surface</i>	+0.02	+0.01	+0.01
<i>Milled asphalt concrete surface</i>	+0.02	+0.01	+0.01

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.*

Mixtures in areas inaccessible to mechanical devices may be placed by other methods. The temperature of mixture at the time of spreading shall be no more than 315°F whenever PG 70-22 binder is used or no more than 325°F whenever PG 76-22 binder is used. The temperature of each mixture shall not be less than 245°F at the time of spreading when placed with paving equipment in accordance with 409.03(c)2 or 409.03(c)3. No mixture shall be placed on a previously paved course that has not cooled to less than 175°F.

SECTION 410, AFTER LINE 494, INSERT AS FOLLOWS:

Spray paver emulsion will be measured by the ton.

SECTION 410, AFTER LINE 503, INSERT AS FOLLOWS:

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

Adjustments to the contract payment with respect to mixture, density, and smoothness for mixture produced will be included in a quality assurance adjustment pay item. The unit price for this pay item will be \$1.00 and the quantity will be in units of dollars. The quantity is the total calculated in accordance with 410.19. A change order will be prepared to reflect contract adjustments in accordance with 109.05.

Payment will be made under:

Pay Item	Pay Unit Symbol
Joint Adhesive, _____ course type	LFT

~~SMA Spray Paver Emulsion TON
 QC/QA HMA, _____, _____, _____ mm, SMA TON
 _____ (ESAL⁽¹⁾)(PG⁽²⁾)(Course⁽³⁾)(Mix⁽⁴⁾)
 Quality Assurance Adjustment DOL
 (1) ESAL Category as defined in 410.04
 (2) Number represents the high temperature binder grade. Low
 temperature grades are 22
 (3) Surface or Intermediate
 (4) Mixture Designation~~

SECTION 409, AFTER LINE 75, 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.*