401-R-581 JOINT ADHESIVE

(Revised 11-21-14)

The Standard Specifications are revised as follows:

SECTION 401, AFTER LINE 388, INSERT AS FOLLOWS:

Hot poured joint adhesive in accordance with 906 shall be applied to longitudinal joints constructed between two adjacent HMA courses in the top course of dense graded intermediate mixtures and all 4.75 mm, 9.5 mm and 12.5 mm surface mixture courses. This includes joints within the traveled way as well as between any of the following: traveled way and an auxiliary lane; traveled way and a paved shoulder; and auxiliary lane and a paved shoulder.

The material shall be heated in a jacketed, double boiler melting kettle. The kettle shall have an attached pressure feed wand system with applicator shoe.

The joint adhesive shall be applied to the face of the previously constructed edge at the joint using a wand applicator. Prior to application of the joint adhesive, the joint face shall be dry and free of loose material and foreign objects. The adhesive shall be applied on the joint face 1/8 in. thick at the temperature recommended by the manufacturer. Excess joint adhesive shall not be allowed to pool on the top of the previously constructed pavement course or the pavement to be overlaid. The application of the adhesive shall be made within the same day, but at least 30 minutes prior to construction of the longitudinal joint.

All 9.5 mm and 12.5 mm surface mixture longitudinal joints that have the joint adhesive applied shall be sealed using SS-1h or AE-NT asphalt emulsion in accordance with 902.01(b). The sealing operation shall not begin until all density cores in accordance with 401.16 and 401.20 have been obtained and the installation of pavement corrugations, when specified in accordance with 606, has been completed.

The liquid asphalt sealant shall be a minimum width of 24 in., centered on the joint line, and shall be extended, when necessary, to provide coverage beyond the edge of the pavement corrugation. The sealant shall be applied at an application rate of 0.03 ±0.01 gal./sq yd onto a dry surface, free of any foreign or loose material, using a distributor in accordance with 409.03(a). Areas receiving greater than 0.04 gal./sq yd shall be lightly broomed to reduce the effects of excess sealant on the pavement surface. The sealant temperature at the time of application shall be at least 135°F and shall not exceed 180°F. The ambient air and pavement temperatures at the time of application shall be greater than 32°F.

Temporary pavement markings in accordance with 801.12 shall be offset a sufficient distance from the longitudinal joint so as not to obstruct the installation of the pavement corrugations or the application of the liquid asphalt sealant. The sealant shall be cured a minimum of five days prior to applying the permanent pavement traffic markings in accordance with 808.

SECTION 401, AFTER LINE 771, INSERT AS FOLLOWS:

Joint adhesive will be measured by the linear foot in accordance with 109.01(a). Liquid asphalt sealant will be measured by the linear foot.

SECTION 401, AFTER LINE 785, INSERT AS FOLLOWS:

Joint adhesive will be paid for by the linear foot, complete in place. Liquid asphalt sealant will be paid for by the linear foot.

SECTION 401, AFTER LINE 789, INSERT AS FOLLOWS:

Joint Adhesive, _____ .....LFT
course type
Liquid Asphalt Sealant .....LFT

SECTION 410, AFTER LINE 312, INSERT AS FOLLOWS:

Hot poured joint adhesive in accordance with 906 shall be applied to longitudinal joints constructed between two adjacent HMA courses in the top course of dense graded intermediate mixtures and all 9.5 mm and 12.5 mm SMA surface mixture courses. This includes joints within the traveled way as well as between any of the following: traveled way and an auxiliary lane; traveled way and a paved shoulder; and auxiliary lane and a paved shoulder.

The material shall be heated in a jacketed, double boiler melting kettle. The kettle shall have an attached pressure feed wand system with applicator shoe.

The joint adhesive shall be applied to the face of the previously constructed edge at the joint using a wand applicator. Prior to application of the joint adhesive, the joint face shall be dry and free of loose material and foreign objects. The adhesive shall be applied on the joint face 1/8 in. thick at the temperature recommended by the manufacturer. Excess joint adhesive shall not be allowed to pool on the top of the previously constructed pavement course or the pavement to be overlaid. The application of the adhesive shall be made within the same day, but at least 30 minutes prior to construction of the longitudinal joint.

SECTION 410, AFTER LINE 485, INSERT AS FOLLOWS:

Joint adhesive will be measured by the linear foot in accordance with 109.01(a).

SECTION 410, AFTER LINE 492, INSERT AS FOLLOWS:

Joint adhesive will be paid for by the linear foot, complete in place.

SECTION 410, AFTER LINE 503, INSERT AS FOLLOWS:

Joint Adhesive, _____ .....LFT
course type

SECTION 906, AFTER LINE 93, INSERT AS FOLLOWS:

5. Hot Poured Joint Adhesive

Joint adhesive is a hot applied asphalt material that is used to seal the longitudinal construction joint formed between the adjacent HMA pavement courses.

Joint adhesive shall be in accordance with the following:

Test	*Method*	*Test Results*

Softening Point, °F (°C)	*AASHTO T 53*	*> 170 (77)*
Ductility @ 77°F (25°C), mm	*AASHTO T 51*	*> 300*
Ductility @ 39°F (4°C), mm	*AASHTO T 51*	*> 300*
Apparent Viscosity @ 400°F (204°C), cp	*ASTM D 2669*	*4,000 – 11,000*
Asphalt Compatibility	*ASTM D 5329*	*Pass*
Cone Penetration @ 77°F (25°C), mm	*ASTM D 5329*	*50.0 – 100.0*
Flow @ 140°F (60°C), mm	*ASTM D 5329*	*< 5*
Resilience @ 77°F (25°C), %	*ASTM D 5329*	*> 30*
Tensile Adhesion @ 77°F (25°C), mm	*ASTM D 5329*	*> 500*
Flexibility @ 0°F (-18°C)	*ASTM D 3111*	*Pass*
Flash Point, °F (°C)	*AASHTO T 48*	*> 410 (210)*

The joint adhesive will be accepted by type A certification in accordance with 916 for each batch or lot of material furnished.