

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-414-1

CODE: (SP)

DATE: 05/03/2004

SUBJECT: Joint Sealing Tape

Section 907-414, Joint Sealing Tape, is hereby added to and becomes a part of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows.

## SECTION 907-414 - JOINT SEALING TAPE

**907-414.01--Description.** This work consists of sealing joints and cracks in asphalt pavement by cleaning the existing surface and placing a waterproofing membrane over the joints and cracks as shown on the plans or specified in contract documents.

### **907-414.02--Materials.**

#### **907-414.02.1--High Density Joint Sealing Tape.**

Membrane: The waterproofing membrane may be self adhesive and shall be a composite material consisting of high density asphalt mastic sandwiched between a bottom layer of non-woven fabric and a top layer of woven fabric meeting the following properties:

<u>Property</u>	<u>Value</u>	<u>Test Method</u>
Weight, minimum	0.8 lb./sq.ft.	
Caliper, minimum, retain 95% after loading	0.120 inches	ASTM D 1777
Absorption	1% maximum	ASTM D 517
Brittleness	Pass	ASTM D 517
Softening Point, minimum, Mastic	200°F	ASTM D 36
Cold Flex., 2-inch x 5-inch Specimen, 180° Bend on 2-inch Mandrel @ 0°F	No Cracking	
Heat Stability, 2-inch x 5-inch Specimen suspended vertically in a mechanical convection oven 2 hours @ 190°F	No Dripping or Delamination	

Flammability	Self-extinguishing, no burn rate	Federal FMVSS 302
Percent Elongation	100% Maximum	
Tensile Strength, minimum Measured in Weakest Principle Direction	150 lbs./in.	ASTM D 882 Modified

Tack Coat: The tack shall be AC-30, unless otherwise approved by the Engineer, and shall be applied to non-self adhesive tape at the rate specified by the membrane manufacturer's representative.

Sand: Although not required, small amounts of washed sand may be used to blot excess asphalt if necessary to facilitate movement of traffic or construction equipment over the material prior to the overlay. There should be no need, however, if the correct amount tack is used.

#### **907-414.02.2--Joint Sealing Tape.**

Membrane: The waterproofing membrane shall incorporate a high strength, heat resistant woven or non-woven fabric embedded in a layer of self-adhesive rubberized asphalt with the following properties:

<u>Property</u>	<u>Value</u>	<u>Test Method</u>
Thickness, minimum	0.065 inch	
Permeance - Perms, maximum, grains/sq.ft./hr., in hg.	0.10	ASTM E 96 Method B
Tensile Strength, minimum	50 lbs./in. Measured in Weakest Principle Direction	ASTM D 882 Modified for 1-inch Opening
Puncture Resistance, mesh, minimum	200 lb.	ASTM E 154
Pliability - 1/4-inch Mandrel, 180° bend at 15°F	No cracks in mesh or rubberized asphalt	ASTM D 146

Primer: A surface primer will be required under conditions and/or applications recommended by the joint sealing tape manufacturer. The type of primer and rate of application will be in accordance with the manufacturer's recommendations.

**907-414.03--Construction Requirements.** All joints shall be sealed as detailed herein and all cracks as designated by the Engineer shall be sealed as detailed herein.

The ambient temperature and pavement surface temperature shall be no less than 50°F, and the pavement surface shall be dry and clean. All dirt, loose particles of pavement, debris and other foreign material shall be removed. If not self adhesive, a tack coat shall be applied for the high density joint sealing tape and the membrane placed at the appropriate time to ensure that the tack coat bonds the membrane to the pavement.

Any pavement spalls that may cause a debonding of the membrane or cause a cavity beneath the membrane shall be filled with an approved hot mix asphalt prior to placement of the joint tape membrane.

The membrane shall be installed straight and wrinkle-free with no curled or uplifted edges. Any wrinkle over three-eighths inch in width shall be slit and folded down.

A hand roller shall be used to conform the material to the pavement surface. In addition to the roller coverage, the material must be left under traffic no less than two days but no more than seven days prior to covering with asphalt pavement.

All damaged or disbonded membrane shall be replaced prior to overlaying at no additional cost to the Department.

**907-414.04--Method of Measurement.** Joint sealing tape of the type specified will be measured by the linear foot. Field measurements will be made as required to determine the exact length sealed. No allowance will be made for laps.

**907-414.05--Basis of Payment.** Joint sealing tape, measured as prescribed above, will be paid for at the contract unit price per linear foot, which shall include cleaning the surface and furnishing and placing the tack and membrane and for all incidentals necessary to complete the work.

The price bid for this work shall include the cost of continuous maintenance of traffic and protective services as required by the Department's Traffic Control Plan. This shall include all required individual traffic control devices.

Payment will be made under:

- 907-414-A: High Density Joint Sealing Tape, Width - per linear foot
- 907-414-B: Joint Sealing Tape, Width - per linear foot
- 907-414-C: High Density Self Adhesive Joint Sealing Tape, Width - per linear foot