

ITEM 10 PAVING FABRIC

10.1 DESCRIPTION

This work consists of furnishing and placing a fabric and asphalt cement as a stress relieving membrane within the pavement structure. This applies to fabric membranes used for full coverage of the pavement, or as strips over transverse and longitudinal pavement joints, in accordance with these specifications and as shown on the plans. This item shall also include traffic control necessary to perform the work.

10.2 MATERIALS

The asphalt cement shall be a PG 64-22. The fabric shall be a non-woven, heat bonded on one side, needle-punched with long chain synthetic polymers composed of at least 85 percent of polyolephins, polyesters and polyamides by weight, shall be resistant to chemical attack, mildew and rot and shall meet the following physical requirements:

TABLE 10.2

Properties	Test Method	
Tensile Strength	ASTM D 4632	90 lbs. (400 N) Min.
Elongation-at-Break	ASTM D 4632	50% Min.
Asphalt Retention	TexDOT Specification No. 3099	0.2 gal. per sq. yd. (0.9 L per sq. m.)
Melting Point	ASTM D 276	300° F (142° C) Min.

The minimum roll width shall be 10 feet (3 m) and the minimum weight shall be 3.6 ounces per square yard. The **CONTRACTOR** shall submit the certification for the paving fabric.

10.3 EQUIPMENT

All equipment used in storing or handling asphalt cement shall be kept clean and in good operating condition at all times, and they shall be operated in such a manner that there will be no contamination. The **CONTRACTOR** shall provide and maintain a recording thermometer to continuously indicate the asphalt cement temperature at the storage-heating unit. The minimum asphalt cement application temperature shall be 290°F (143°C), and the distributor tank temperature shall not exceed 325°F (163°C).

Asphalt cement shall be applied by an approved self-propelled pressure distributor. The distributor shall apply the asphalt cement at the 0.25 gallons per square yard evenly and smoothly under a pressure necessary for proper distribution.

Mechanical or manual laydown equipment shall be used for laying the fabric smoothly. **CONTRACTOR** shall provide stiff bristle brooms or squeegees to smooth the fabric, scissors or blades to cut the fabric and brushes for applying asphalt cement at fabric overlaps.

Equipment shall be approved by the **AGENCY**. All equipment and machinery shall be kept in good working order, free of leaks and properly muffled. All taxes, licenses and fees shall have been paid and proper licenses and permits shall be posted as required by law.

10.4 CONSTRUCTION

Fabric rolls shall be wrapped for protection against moisture and extended ultra-violet exposure prior to placement. Fabric rolls shall be stored and protected from the weather. If stored outdoors, the rolls shall be elevated and protected with a waterproof cover. Traffic control shall be provided for any work performed on the roadway in accordance with the Manual of Uniform Traffic Control Devices latest edition. Traffic control shall be part of this item and the plan must be submitted to and approved by the **AGENCY** at least 10 days in advance of the work.

The fabric shall be placed on a clean surface free of dirt, water, vegetation and other debris by sweeping or other approved method. Cracks, potholes and spalls shall be repaired before applying the binder.

The asphalt cement shall not be applied when the air temperature is below 60°F and falling, but may be applied when the air temperature is above 50° F and is rising, the air temperature being taken in the shade away from artificial heat. In addition, the asphalt cement shall not be applied when the temperature of the surface on which the asphalt cement is to be placed is below 60°F. Neither the asphalt cement concrete pavement nor the fabric shall be placed when general weather conditions, in the opinion of the **AGENCY**, are not suitable.

The asphalt cement shall be uniformly applied to the prepared dry pavement surface at a minimum rate of 0.25 gallon per square yard of surface covered. The binder shall be applied to width equal to the width of the fabric mat plus 6 inches on each side.

The asphalt cement application shall not be applied any farther in advance of fabric placement than the distance, which can be maintained free of traffic. Asphalt spills shall be cleaned from the pavement surface.

The paving fabric shall be placed immediately in advance of the asphalt cement so the paving fabric membrane is not exposed to traffic as a result of equipment breakdown or during non-work hours. Temporary traffic control, including flagging shall be provided by and at the **CONTRACTOR**'s expense to protect the fabric from exposure to traffic.

Immediately upon application of the asphalt cement, the fabric shall be aligned and carefully broomed and/or rolled onto the HMAP. The fabric shall be stretched, aligned and placed with no wrinkles. The test for lapping shall be made by gathering together the fabric in a wrinkle. If the height of the doubled portion of extra fabric is 1/2 inch or more, the fabric shall be cut to remove the wrinkle, then lapped in the direction of paving. Lap in excess of 2 inches shall be removed.

Overlap of fabric joints shall be sufficient to ensure full closure of the joint and shall not exceed 4 inches. Transverse joints shall be lapped in the direction of paving to prevent edge pickup by the paver. A second application of asphalt cement to fabric overlaps will be required if additional asphalt cement is needed to ensure proper bonding of the double fabric layer. Rolling and/or brooming the fabric into the asphalt cement concrete pavement at the joints shall be accomplished in such a way that air bubbles which form under the fabric will be removed.

Paving equipment and hauling units shall be operated so that braking, turning movements and reversing direction of travel do not cause wrinkling, folding or displacement of the fabric. Damaged fabric shall be replaced without additional payment. Only emergency and construction traffic will be allowed on the fabric.

10.5 MEASUREMENT

Paving fabric will be measured for payment by the square yard of surface area, complete, in place, with no allowance for overlaps using plan quantities. The fabric unit price will be full compensation for preparation of the application surface, application of asphalt cement, furnishing and placing the fabric, and all labor, equipment, tools, traffic control and incidentals necessary to complete the fabric placement.

Paving fabric will be plan quantities as provided for on the plans. The measurement will not include quantities of asphalt cement applied in excess of the application rate specified.

10.6 TESTING AND INSPECTION

Testing of paving fabric shall be performed in accordance with Table 10.6.

**TABLE 10.6
SCHEDULE FOR MINIMUM MATERIALS SAMPLING AND TESTING**

Test Type	Minimum Frequency of Tests
Fabric	One certificate of compliance for each lot of paving fabric.

10.7 PAYMENT

Payment shall be made at the Contract Unit Price for "Paving Fabric" measured in square yards based upon plan quantity. The price shall be full compensation for furnishing all material, and for all preparation of the pavement, asphalt cement concrete pavement, delivering, placing, and all labor, equipment, tools and incidentals necessary to complete this Item. Traffic control shall be provided and included within the amount and cost of this Item.

<u>Item Description</u>	<u>Payment</u>
10.1 Paving Fabric	\$/yd ²