

GUIDE SPECIFICATION & INSTALLATION – CT 4591

SELF-ADHERING PAVING STRIP MEMBRANE INTERLAYER

DESCRIPTION - This work shall consist of furnishing and placing an asphalt-coated paving fabric reinforced membrane over pavement cracks, joints and other pavement distress areas prior to placement of a pavement overlay. The membrane shall be installed as indicated on the plans and contract documents.

MATERIAL REQUIREMENTS - The strip membrane interlayer shall be a nonwoven, needle-punched, polypropylene fabric coated with rubberized asphalt adhesive on the bottom, and top-coated with an asphalt tack coat. A release sheet, which is removed just prior to placement, shall cover the adhesive. The membrane shall be **CT 4591** or approved equal and shall meet the physical requirements specified in Table 1.

Table 1 Physical Requirements of the Self- Adhesive Paving Strip Membrane.

Property ⁽¹⁾	Test Method	Minimum Average Roll Value (English)	Minimum Average Roll Value (Metric)
Strip Tensile	ASTM-D-882 ⁽²⁾ (modified)	50 lbs/in	8.76 kN/m
Puncture Resistance	ASTM-E-154	200 lbs	0.890 kN
Permeance - Perms	ASTM-E-96, method B	0.05 max	0.05 max
Pliability	ASTM-D-146 ⁽³⁾ (modified)	No cracks in fabric or rubberized asphalt	No cracks in fabric or rubberized asphalt

Notes

- 1 - Minimum average roll values unless otherwise noted
- 2 - Using 12 in/min (300mm/min) test speed and 1" (25mm) initial distance between grips
- 3 - Using 180° bend on 1/4" (6.4mm) mandrel at -25°F (-32°C)

The self-adhesive strip membrane shall be stored and handled in accordance with the manufacturer's recommendations. Incidental materials recommended by the manufacturer for proper membrane installation, such as primer and tack coat shall be furnished and used in accordance with the manufacturer's recommendations.

USE - The self-adhesive paving strip membrane interlayer is used as a moisture barrier and stress absorbing membrane for treatment of pavement cracks, joints, and other pavement distress areas. It is applied in strips over cracks and joints in Portland cement or bituminous concrete pavements. The membrane adheres to the existing surface and is then overlaid with bituminous concrete using standard paving procedures.

CONSTRUCTION METHODS - The self-adhesive paving strip membrane interlayer shall be installed in accordance with the manufacturer's recommendations and the following requirements.

Preparation of existing surface: The pavement surface shall be cleaned of dirt and other foreign materials. The surface shall be completely dry, with no lingering moisture around pavement cracks. Cracks greater than 3/8 inch (10 mm) in width shall be filled with a suitable crack filler. Areas of severe alligator cracking or pavement subsidence shall be excavated and replaced prior to membrane application. If necessary, Portland cement concrete slabs shall be stabilized.

Primer placement: When required, a primer shall be furnished and placed on the prepared pavement as specified by the membrane manufacturer. Use of a primer is recommended if the pavement temperature is below 70°F (21°C). No prime coat is needed when the pavement is clean, dry and at a temperature of 70°F (21°C) or above.

Membrane placement: The strip membrane interlayer shall be centered over joints and cracks to be treated and shall be rolled after placement. Transverse joints and cracks shall be treated before longitudinal joints. Should a crack require more than one strip, the strips shall be overlapped at least 4 inches (102mm) in the direction of paving. Any wrinkles or bubbles in the membrane shall be repaired as specified by the manufacturer. Membrane which is damaged due to the Contractor's operations shall be removed and replaced at the Contractor's expense. The installed membrane shall be approved by the Engineer prior to paving operations.

Overlay placement: A standard pre-paving tack coat shall be applied over the pavement and pavement repair membrane. Paving mix should be applied as specified in the plans and contract documents; however, a compacted thickness of the first lift of asphalt concrete over the Petrotac shall not be less than 1½ inches (38 mm).

Vehicle traffic: If necessary, traffic can be permitted on the membrane before the overlay is placed. However, as a safety precaution, such traffic should be only temporary and must be approved by the Engineer. Harsh traffic conditions, such as high speeds, turning, and braking, should be avoided. Warning signs shall be posted to alert drivers that the surface may be slippery. Signs shall also post a safe speed.

Temperature: The pavement temperature shall be at least 45°F (8°C) and rising for membrane installation.

MEASUREMENT AND PAYMENT - The strip membrane interlayer will be measured in place by the square yard (square meter), without credit for overlaps. The accepted quantities of strip membrane interlayer will be paid for at the contract unit price per square yard (square meter) in place.