

# Pavement Membrane for Reflective Cracking And Waterproofing Construction Specification

**MATERIALS:**

Pavement stress relief and waterproofing membrane shall be comprised of a self-adhering rubberized asphalt and durable polypropylene non-woven fabric (peel and stick). A release paper, which is removed prior to placement, covers the self-adhesive mastic. The membrane shall conform to the following properties:

Mechanical Properties	Test Method	Unit	Typical Roll Value
Grab Tensile Strength	ASTM D 4632	kN (lbs)	0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	40
Puncture Strength	ASTM E 154	kN (lbs)	0.89 (200)
Permeance	ASTM E 96, Method B	perms	0.10 (max)
Strip Tensile	ASTM D 882, Modified	kN/m (lbs/in)	10.5 (60)
Thickness	ASTM D 5147	Mils	65
Pliability	1/4" Mandrel 180° @-25°F	No cracks in fabric or rubberized asphalt	

**SUBMITTALS:**

A. Submit the following:

1. Certification: The contractor shall provide to the Engineer a certificate stating the name of the manufacturer, product name, style number, and chemical composition of the filaments or yarns and other pertinent information to fully describe the geotextile. The Certification shall state that the furnished geotextile meets MARV requirements of the specification as evaluated under the Manufacturer's quality control program. The Certification shall be attested to by a person having legal authority to bind the Manufacturer. Certifications from Private Label distributors will not be accepted.
  
2. Quality Standards: The contractor shall provide to the Engineer the Manufacturer's Quality Control Plan along with current A2LA, GAI-LAP, and ISO 9001:2000 certificates.

Manufacturer Qualifications:

1. The geotextile Manufacturer shall have the following credentials:
  - a. Geosynthetic Accreditation Institute (GAI)- Laboratory Accreditation Program(LAP)
  - b. American Association for Laboratory Accreditation (A2LA)
  - c. ISO 9001:2000 Quality Management System

2. The geotextile Manufacturer shall have a GAI-LAP accredited laboratory at the location of production capable of performing the ASTM tests as outlined in the specification.

#### **MANUFACTURERS:**

- A. TenCate Geosynthetics  
365 South Holland Drive  
Pendegrass, GA, USA 30567  
1-800-685-9990  
1-706-693-2226  
1-706-693-4400, fax  
www.tencate.com

#### **CONSTRUCTION PROCEDURE:**

##### **Equipment**

No special equipment is required for installing Miratak. Utility knives are all that are required.

##### **Surface Preparation**

Existing pavement surface must be reasonably clean and dry. Cracks wider than 3/8-inch should be filled with suitable crack filler. Severally spalled or other distressed areas must be repaired according with accepted paving practices. Portland cement concrete pavement slabs should be stable. Excessive subsided joints should be raised to proper grade by applying a thin leveling course. If leveling course is used crack sealing is not necessary. Note: Some commercial crack filler expand under the heat of an overlay. Therefore the crack should be filled level with the existing pavement surface.

**Primer:** No primer is required when pavement surface is 65 degree F or above. Use of primer is recommended if temperature is below 65 degree F, and the membrane may be exposed to traffic prior to overlay. Any suitable priming material composed of refined asphalt and rapid drying solvent may be used. Primer material is also available from TenCate Geosynthetics. If primer is required then brushes or rollers will be needed to apply the primer to the surface

**Temperature:** The surface temperature should be 45°F and above when installing Miratak. Storage temperature should not exceed 125°F.

##### **Installation**

Center the roll over the joint or crack to be treated, release paper still attached. Allow for a material overrun of 2-3 inches beyond the end to ensure waterproofing at this point. Cut the membrane with utility knife. Install the Miratak removing release paper.

In the case of Portland cement concrete, transverse joint strips shall be applied before longitudinal joint strips to minimize the chance of the membrane peeling. On longitudinal joints allow 2-3 inches overlap in the direction of traffic.

Material should be laid smooth. If required roll the membrane with a pickup truck or pneumatic roller for proper adhesion.

Note: On transverse joints where one lane is open to traffic, pre-cut each strip to required length and re-roll. Remove 6 to 12 inches of release paper from the mastic and apply this to moving traffic side end of the joint. Pull the remaining paper and install membrane on the joint.

**Trafficking**

Limited traffic will not damage Miratak membrane and can be opened to construction traffic. However if local conditions require that traffic should be permitted and in the judgment of the engineer that safety is not issue the fabric can be opened to traffic. Signs should warn motorists that the driving surface might be slippery when wet and speed should be significantly reduced.

**Application of Overlay Tack coat:** A standard pre-paving tack coat is applied over the Miratak and rest of the surface before placing the hot mix asphalt layer.