

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	

A Certificate of Compliance for the membrane used on the project shall be furnished to the engineer. The fabric shall be furnished in suitable packaging for protection. Miratak® or approved equal should be used.

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 Mirafi Construction Products. 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 degree F and above when installing Miratak. Storage temperature should not exceed 125 degree 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 pick up 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.