MIRAFI® MTK PEEL AND STICK INTERLAYER INSTALLATION GUIDELINES FOR JOINTS, CRACKS and BRIDGE DECKS

Prepared by:
TenCate Geosynthetics Americas
365 South Holland Drive
Pendergrass, GA 30567
Tel. (706) 693 – 2226
www.tencategeo.us

December 18, 2018

SECTION 1- INSTALLATION GUIDELINES FOR DISCRETE CRACKS, JOINTS AND LOCALIZED REPAIRS

Material Description

Mirafi® MTK is a very cost effective waterproofing and stress relief interlayer comprised of self-adhering rubberized asphalt membrane and durable polypropylene nonwoven paving fabric. A release paper, which is removed prior to placement, covers the self-adhesive mastic and provides for ease of installation. The material is a minimum of 65 mil in thickness. The material is roll packaged in boxes with the following dimensions (width x length):

- 12" x 200' (0.30 m x 61.0 m)
- 18" x 200' (0.45 m x 61.0 m)
- 24" x 100' (0.60 m x 61.0 m)
- 36" x 50' (0.90 m x 30.5 m)

Applications

Mirafi® MTK prevents surface moisture intrusion and delays reflective cracking and is used, but not limited to the following applications:

- Longitudinal and transverse Portland Cement Concrete (PCC) Joints or Cracks
- Lane Widening Joints
- Patching Edge Joints
- Paving Seam Joints
- Bridge and Parking Deck Waterproofing

Mirafi® MTK can also be used as a preventive maintenance tool on locally distressed pavement areas such as alligator-cracked areas and patched potholes in parking lots, streets, highways, and on any other paved areas.

Equipment

No unique or special equipment is required for installing Mirafi® MTK. Utility knives work well in cutting the product and the release sheet.

Product Storage and Handling

It is recommended that the product be stored in a cool, dry place away from direct sunlight. Storing Mirafi® MTK in the sun, on a hot day (> 85° F [> 29 C]) will make the asphalt backing sticky and harder to work with. On cooler days (<55 ° F [<13 C]), exposure to sunlight will assist in softening the material to assist in installation. Long-term storage should be indoors at temperatures < 125° F (< 52 C).

Surface Preparation

Existing pavement surface must be cleaned of all loose dirt and debris and be dry. Cracks wider than 3/8-inch (10 mm) should be filled with a commonly used local crack filler. Severely spalled, highly fragmented, or other distressed areas must be repaired according with accepted paving practices. PCC slabs should be stable. If a leveling course is used, crack sealing is not necessary. Note: Commercial crack filler expands under the heat of an overlay and therefore the crack should be filled level or just below the existing pavement surface.

Potholes should be repaired using procedures recommended by the State or the Asphalt Institute. A leveling course or asphalt concrete patching may be required where the milled pavement surface is not uniform, with elevation differences of more than ½ inch (13 mm). Exposed aggregate surfaces that occur after milling, should also be patched with asphalt concrete. Mirafi® MTK can be installed over a finished milled surface.

If there are concerns of existing pavement surface, overlay thickness, asphalt mix traffic volumes or construction procedures please contact TenCate Geosynthetics Americas or your local distributor.

Primer

Primer must be used on all concrete and milled surfaces. On new asphalt surfaces, a primer is not needed unless temperatures are too cool (surface temperatures between 40º and 50ºF [5º and 10º C]) to obtain a good bond between the Mirafi® MTK and the pavement. On old asphalt surfaces (not milled), primer is not needed if temperatures are 70ºF (21 C) and rising.

Surface shall be primed as follows:

- When substrate is ready, apply Polyguard (or equal) 650 RC Liquid Adhesive at a rate of 400 square feet per gallon [10 square meters per liter] (250 square feet (6 square meters) on milled surfaces). Any suitable priming material composed of refined asphalt and rapid drying solvent may be used (e.g. CRS-2P).
- Primer may be applied using brushes, rollers or by spraying at the prescribed rate of application.
- Never apply 650 RC Liquid Adhesive to wet or frozen surfaces.
- The primer must be completely dry prior to application of the Mirafi® MTK.
- Prime only the area which can be covered with Mirafi® MTK in the same working day. Areas primed and not covered with Mirafi® MTK within 24 hours should be re-primed. Smoothness and porosity of the concrete will affect coverage rate.
- Do not apply liquid adhesive at heavier rates than recommended. Excessive material build-up will delay drying and delay the Mirafi® MTK installation.

Installation

Temperature: Storage temperature should not exceed 125ºF (52º C). The minimum surface temperature should be 45ºF (7º C) and rising.

Slope Considerations: Asphalt overlays are more prone to shoving and shearing on steep grades especially in areas of stopping or sharp turns. Mirafi® MTK can be installed on grades with slopes up to 10%.

The following steps should be followed to install Mirafi® MTK:

- Center the roll over the joint, edge or crack to be treated with the release paper attached. Allow for a material overrun of 4 to 6 inches (100 to 150 mm) beyond each end of the crack to ensure an effective waterproof seal.
- Starting from one edge, remove the release paper, and apply light pressure to adhere the Mirafi® MTK to the surface, following the crack, joint or edge.
- Cut the Mirafi® MTK with a utility knife.
- Allow 2 to 3 inches (50 to 75 mm) overlap if adjacent panels are required to cover the distressed area. roll the Mirafi® MTK to ensure adhesion to the existing surface.
- Roll the Mirafi® MTK with a pickup truck or pneumatic tire roller. A stiff broom can also be used to aid adhesion.
- All wrinkles should be slit, overlapped, and repaired as above.
- In the case of PCC surfaces, transverse joint strips shall be applied before longitudinal joint strips to minimize the chance of the Mirafi® MTK peeling up.
- On longitudinal joints allow 2 to 3 inches (50 to 75 mm) overlap in the direction of traffic. Shingle the longitudinal overlaps in the direction of traffic.

Note: For cold weather patching, the surface area to be patched may be heated with a torch to assist with adhesion. The mastic side of the Mirafi® MTK may be lightly warmed also.

Trafficking on the Installed Product

Traffic on the installed Mirafi® MTK should be limited to construction traffic. Limited local traffic should not be permitted on the installed Mirafi® MTK, unless approved by the engineer and the manufacturer's representative.

Paving Operation

Tack coat: A standard tack coat is applied over the Mirafi® MTK and the remaining surface before placing the hot mix asphalt layer. The use of a cutback emulsions is not recommended.

Overlay Thickness: A minimum compacted thickness of 1-1/2 inches (40 mm) is recommended.

The use of vibratory rollers to compact the asphalt is NOT recommended to be used over the areas where Mirafi® MTK has been installed. This is generally resolved by slowing the roller to reduce the shear forces and using a static roller on the secondary passes. It may be appropriate to wait for the hot mix to cool at the lower levels of acceptable compaction temperatures.

SECTION 2- INSTALLATION INSTRUCTIONS FOR CURBS, POSTS AND DRAINAGE INLETS

Follow all the instruction guidelines in Section 1, and apply the following installation modifications to account for curbs, posts, or drainage inlets:

- At curbs, drains, posts or projections, apply a double layer of Mirafi® MTK going out at least 6 inches (150 mm) onto the primed horizontal, and 2" (50 mm) up the primed vertical face. Roll Mirafi® MTK firmly into the vertical/horizontal interface to eliminate any air pockets.
- Mirafi® MTK should be applied to the primed surfaces starting at the low point and working to the high point using a shingling technique.
- Side laps should be a minimum of 3 inches (75 mm) and end laps a minimum of 6 inches (150 mm).
- The entire installed Mirafi® MTK should be firmly rolled with a rubber-tired asphalt roller or hand roller. This will ensure adhesion and minimize air pockets between the substrate and Mirafi® MTK.
- Inadequately lapped seams and damaged areas should be patched with small sections of Mirafi® MTK. The patch area should extend at least 6 inches (150 mm) beyond the defect.
- All inside and outside corners shall be treated with 12 inch (300 mm) wide strips. The Mirafi® MTK should be placed over the corner treatment. It is recommended that inside corners have a minimum ¾ inch (19 mm) fillet of LM 95 Liquid Membrane or latex modified cement mortar.
- Double ply all non-working joints or cracks over 3/16" (5 mm) width with a 6" to 12" (150 mm to 300 mm) piece of Mirafi® MTK. 650 Mastic, or equal, should be applied to all edges, overlapping seams, and end terminations. The recommended application rates for 650 Mastic, or equal is either:
  - 100 linear feet (30 m) of a 1" (25 mm) wide bead per gallon, if using material from 5 gallon (20 liter) pails
  - Or
  - 65 linear feet (20 m) of a ½" (13 mm) wide bead per 30 ounce (850 g) tube.
- *650 Mastic* should then be worked into the seam with a trowel to insure proper sealing.

NOTE: POLYGUARD 650 MASTIC

Description

POLYGUARD 650 MASTIC is an asphalt /rubber-based mastic which provides excellent adhesion to the Mirafi® MTK, structural concrete, masonry, and wood surfaces. 650 MASTIC (or equal) is recommended to protect the termination edges, overlaps, patches and any additional detailing areas. On vertical applications, 650 MASTIC must be applied on both the bottom and top terminations of the Mirafi® MTK.

Technical Data: Physical Properties Typical Results

Color Black
Specific Gravity 1.12
Flash Point (PM Closed Cup) 105EF (41EC)

Application

POLYGUARD 650 MASTIC is supplied either in a 5 gallon (20 liter) pail or in a 30 oz. (850 g) caulking tube. If some material is applied with a caulking gun the bead must be struck with a trowel to insure the 650 MASTIC is worked into the termination edges. If the material is supplied in a pail, it may be applied with either a trowel or by hand using rubber gloves as precautions. When applied as a temporary cut-off, trowel the 650 MASTIC over the Mirafi® MTK in a very thin layer, and allow to cure a minimum of 12 hours before placement of additional Mirafi® MTK. On the bottom edge of any vertical application, 650 MASTIC must be applied liberally to these areas. 650 MASTIC should also be applied around any protrusions, drains, or any areas requiring patching, or specific detailing.