NONWOVEN INTERLAYER FOR SEPARATING CEMENTITIOUS PAVEMENT LAYERS

Prepared by:
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Material Identification, Storage and Handling

Care must be taken while unloading or transferring the Mirafi® MPBBC1450 from one location to another. This will prevent damage to the wrapping, core, label and to the paving fabric itself. If Mirafi® MPBBC1450 is to be stored for an extended period, the fabric shall be located and placed in a manner that ensures the integrity of the wrapping, core, and label as well as the physical properties. This can be accomplished by elevating the product off the ground and ensuring that it is adequately covered and protected from ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, fire or flames including welding sparks, and human or animal destruction.

Before unrolling, verify the roll identification, length, and installation location with the contract drawings. While unrolling Mirafi® MPBBC1450, inspect it for damage or defects. Repair any damage that occurs during storage, handling or installation.

The Paving Fabric

Mirafi® MPBBC1450 Bond-Breaker is a needle-punched nonwoven interlayer composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position for use as an interlayer for separating cementitious pavement layers. Mirafi® MPBBC1450 Bond-Breaker is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids.

Mechanical Properties	Test Method	Unit	Roll Value
Weight	ASTM D5261	oz/yd^2 (g/m^2)	14.7 (498)
Thickness Under Load	ASTM D5199		
0.29 psi (2 kPa)[1]		mils (mm)	118 (3.0)
2.9 psi (20 kPa)[1]		mils (mm)	98 (2.5)
29 psi (200 kPa)[1]		mils (mm)	39 (1.0)
Wide Width Tensile Strength[2]	ASTM D4595	lbs/ft (kN/m)	685 (10)
Wide Width Elongation[3]	ASTM D4595	%	130
Water Permeability in Normal Direction under load	ASTM D5493		
2.9 psi (20 kPa)[1]		m/s	1 x 10^{-4}
In-plane Water Permeability	ASTM D6574		
2.9 psi (20 kPa)[2]		m/s	5 x 10^{-4}
29 psi (200 kPa)[2]		m/s	2 x 10^{-4}
Alkali Resistance[1]	EN 13249	%	96
UV Resistance (at 500 hours)[1]	ASTM D4355	% strength retained	70

[1] Actual Test Value based on Third Party results
[2] Minimum
[3] Maximum

Installation Guidelines-Fabric Interlayer Cementitious Unbonded Overlay

Interlayer: The interlayer material shall be Mirafi® MPBBC1450.

Description: Unbonded concrete overlays shall consist of placing an interlayer material on an existing pavement surface and constructing a concrete overlay in accordance with the details and location shown on the plans.

Material: All material shall be in accordance with Standard Material Details, unless specified otherwise. Patching material for use in repair of surface defects prior to the overlay shall consist of bituminous material, cementitious material, or other equivalent material meeting the approval of the engineer.

Surface Preparation: All holes greater than 2 in wide and 1 in deep in the surface of the traffic lanes, excluding shoulders, shall be filled with patching material and shall be compacted to a flat, tight surface. Sweep the underlying surface to remove loose debris before applying the interlayer.

Interlayer Placement

Interlayer placement shall comply with the following requirements:

The interlayer should be placed as closely as possible to the scheduled date of concrete paving to minimize damage or contamination from weather and vehicular traffic.

Do not place the interlayer on areas subjected to excess traffic (*e.g., crossovers and intersections*). Installation of the interlayer should be delayed on these areas until immediately before concrete placement. Driving on the interlayer should be kept to a minimum. Tight-radius turns and excessive accelerations and braking should be avoided. If construction traffic is expected on the grade in front of the paver, no more than 650 ft (200 m) of interlayer should be installed in advance of the paving operation at any given time. This will minimize the potential for damage before paving.

Fabric shall be damp, but not saturated, prior to concrete placement. Fabric shall extend throughout the travel-way lane width and overlap onto the shoulder by at least 18 inches. Roll the interlayer out on the underlying layer. The interlayer should be tight and without excess wrinkles and folds.

Care should be taken to roll out the interlayer in a sequence that will facilitate proper material overlap to prevent folding and/or tearing by construction traffic. The free edge of the interlayer should extend beyond the edge of the new concrete and into a location that facilitates drainage by 4 inches or more. More specifically, the interlayer must terminate in or next to a drainable pavement layer or be exposed in such a way that free drainage of water within the interlayer is not impaired. No more than three layers of material should overlap at any location. This

requires staggering of transverse seams of adjacent rolls to prevent four layers from coinciding at any location.

The interlayer should be secured to the underlying layer with pins or nails punched through 2 to 2.75 inches galvanized washers or discs every 6 feet or less on center. Smaller washers or discs can increase the likelihood that the interlayer will separate from the underlying layer during subsequent placement of the concrete. Additional fasteners can be used as needed to ensure that the interlayer does not shift or fold before or during concrete placement. Where it occurs, edges of the interlayer should overlay by 8 ± 2 inches.

Method of Measurement

Interlayer: Measurement for the interlayer will be made to the nearest square yard.

Basis of Payment

Interlayer: Payment for the interlayer will be paid for at the contract unit price per square yard.

References

Prepared by the International Scanning Study Team: Robert Otto Rasmussen and Sabrina I. Garber for: Federal Highway Administration, U.S. Department of Transportation, American Association of State Highway and Transportation Officials and National Cooperative Highway Research Program.