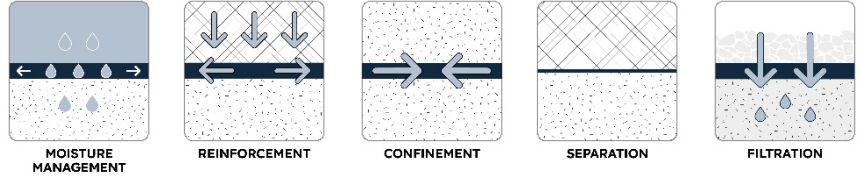


# MIRAFI RS380i

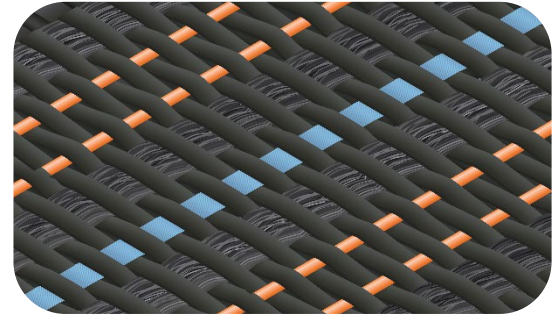
Now With Passive Moisture Management



MIRAFI® RS380i, a high-modulus woven geosynthetic, serves as a comprehensive solution for soil reinforcement, confinement, separation, and filtration. Its construction integrates:

- black fibrillated polypropylene yarns for enhanced tensile strength
- orange anti-clogging yarns for filtration benefits
- blue wicking yarns for passive moisture management and an anti-capillary break

The geosynthetic’s distinctive profile features an unparalleled ridge-to-valley design, ensuring surface roughness across its entire area. This design facilitates micro-interlocking through friction, fostering excellent interaction between the underlying subgrade and overlying materials.



The following performance properties are intended to establish requirements for quantifying the structural benefit of MIRAFI RS380i. As per the recommendations of AASHTO R50-09 *Standard Practice – Geosynthetic Reinforcement of the Aggregate Base Course of Flexible Pavement Structures* and FHWA NHI-07-092 *Geosynthetic Design & Construction Guidelines*, geosynthetic equivalencies should never be based strictly on index properties due to differences in polymers and manufacturing methods. MIRAFI RS380i has been fully calibrated in full-scale industry lead design methodologies for flexible pavement designs (AASHTO 93) and unpaved road designs incorporating geosynthetics.

TenCate Geosynthetics Americas (A Solmax Company) is accredited by Geosynthetic Accreditation Institute – Laboratory Accreditation Program ([GAI-LAP](#)). MIRAFI RS380i meets Build America, Buy America Act, Pub. L. No. 117-58, div. G §§ 70901-52.

EMPIRICAL PERFORMANCE PROPERTIES	GUIDANCE / TEST METHOD	UNIT	CALIBRATION VALUE
Base Course $M_R$ Improvement Factor <sup>1</sup>	AASHTO R50-09	---	1.3
Traffic Benefit Ratio: TBR <sup>2,3,4</sup>	AASHTO R50-09	---	3.9 / 5.2 / 21.7
GEOMETRIC PERFORMANCE PROPERTIES	GUIDANCE / TEST METHOD	UNIT	VALUE
Pore Size Distribution	ASTM D6767	microns	$O_{95} - 392, O_{50} - 195$
Interaction Coefficient: $C_i$ <sup>5</sup>	ASTM D6706	---	0.89
Void Ratio, $e$	Calculated	---	0.76

## MOISTURE MANAGEMENT SCALE



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FGS000726 ETQR22



# MIRAFI RS380i

HYDRAULIC PERFORMANCE PROPERTIES	TEST METHOD	UNIT	MEASURED VALUE	
Vertical Capillary Wicking Rise (CD)	GRI GS27	in (mm)	3.8 (98) after 10 min	
Contact Angle of Wicking Yarns	ASTM D5946	degrees	< 90	
Specific Surface Area of Wicking Yarns (minimum)	Calculated	in <sup>2</sup> /oz (cm <sup>2</sup> /g)	70 (16)	
<b>MINIMUM AVERAGE ROLL VALUE</b>				
Hydraulic Flow Rate	ASTM D4491	gal/min/ft <sup>2</sup> (l/min/m <sup>2</sup> )	75 (3,056)	
Permittivity	ASTM D4491	sec <sup>-1</sup>	0.9	
<b>MAXIMUM ROLL VALUE</b>				
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	40 (0.425)	
MECHANICAL PROPERTIES	TEST METHOD	UNIT	MINIMUM AVERAGE ROLL VALUE	
			MD	CD
Tensile Strength @ 2% strain	ASTM D4595	lb/ft (kN/m)	600 (8.8)	1,020 (14.9)
Tensile Strength @ 5% strain	ASTM D4595	lb/ft (kN/m)	1,800 (26.3)	2,256 (32.9)
CBR Puncture Strength	ASTM D6241	lb (N)	1,770 (7,877)	
<b>MINIMUM TEST VALUE</b>				
UV Resistance (500 hours)	ASTM D4355	% Strength	90	
PHYSICAL PROPERTIES		UNIT	ROLL SIZE	
Roll Dimensions (width x length)		ft (m)	15 x 300 (4.5 x 91.4)	
			17 x 300 (5.2 x 91.4)	
Roll Area		yd <sup>2</sup> (m <sup>2</sup> )	500 (418)	
			567 (478)	
Estimated Roll Weight		lb (kg)	348 (157)	
			372 (169)	

<sup>1</sup> Value Determined from Results of Independent Testing Performed at Kansas State University in accordance with NCHRP Report 512 “Accelerated Pavement Testing: Data Guidelines” and AASHTO R50-09 Geosynthetic Reinforcement of the Aggregate Base Course of Flexible Pavement Structures.” Multiplier for Unbound Granular Material; for SG MR between 4.5 and 6.9 ksi (30.9 and 47.4 MPa).

<sup>2</sup> Value Determined from Results of Independent Testing Performed at GeoTesting Express (GeoComp) “A Laboratory Evaluation of the Performance of TenCate Mirafi® Geosynthetics in Roadway Stabilization Applications – Georgia Silt Subgrade,” September 1, 2011. 9-kip {40 kN} Wheel Load, SG CBR = 1%, 12-inch (300-mm) Crushed Aggregate BC (CBR > 25%), 3-inch (75-mm) Rut Depth.

<sup>3</sup> Value Determined from Results of Independent Testing Performed at LTRC “Performance of Reinforced–Stabilized Unpaved Test Sections Built Over Native Soft Soil Under Full–Scale Moving Wheel Loads,” TRR Volume 2511, 2015. Measured at 0.34-inch (8.64 mm) Rut Depth; Peak Pore Pressure 6-inches (150 mm) Below Geosynthetic.

<sup>4</sup> Value Determined from Results of Independent Testing Performed at GeoTesting Express (GeoComp) “A Laboratory Evaluation of the Performance of TenCate Mirafi® Geosynthetics in Roadway Stabilization Applications – Montana Clay Subgrade,” September 1, 2011. 9-kip (40 kN) Wheel Load, SG CBR = 1.8%, 8-inch (200-mm) Rounded Aggregate BC (CBR > 25%), 3-inch (75-mm) Rut Depth.

<sup>5</sup> Interaction Coefficient value is for sand (SP) or gravel (GW) based on testing conducted by SGI Testing Services.

<sup>6</sup> Modified

U.S. Patent 8,333,220 and 8,598,054- TenCate, Mirafi, and the color ORANGE used in connection with geosynthetic or geotextile products are registered and/or unregistered trademarks of Nicolon Corporation. For additional Patent Information, please visit our website [www.tencategeo.com/en-us/amer/resources/knowledge-library/patents](http://www.tencategeo.com/en-us/amer/resources/knowledge-library/patents) or use the QR Code below.

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