

## Mirafi® FW-Series Woven Geotextiles for Engineered Filtration

TenCate develops and produces materials that function to increase performance, reduce costs and deliver measurable results by working with our customers to provide advanced solutions.

The Difference Mirafi® FW-Series Engineered Filtration Geotextiles Make:

- **Engineered Filtration.** Resists clogging while maintaining flow rates in high gradient and dynamic flow conditions.
- **Durability.** High survivability rating in aggressive installation and loading conditions along with excellent resistance to chemicals in aggressive environments.
- **Soil Interaction.** Superior soil confinement resulting in greater load distribution.
- **Unique Constructions.** Manufactured with highly UV stabilized multifilament fibers which provide uniform opening size (AOS) while maintaining high long-term flow rates. Mirafi® FW-Series geotextiles are manufactured with specialized processes to produce unique physical and hydraulic properties not possible with standard geotextiles, woven or nonwoven.
- **Seams.** Panels can be sewn together in

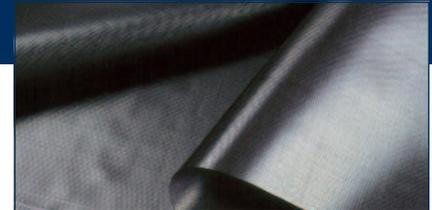
the factory or field, providing cross-roll direction strength to facilitate installation.

### APPLICATIONS

Mirafi® FW-Series engineered filtration geotextiles are designed for long-term performance in problematic soil or site conditions to ensure clogging resistance, soil retention in erosion control, and subsurface drainage applications. Mirafi® FW-Series geotextiles are used underneath rip rap or concrete revetment systems along inland waterways and coastal shorelines to protect spillways and embankment dams from overtopping flow, encapsulating cut-off drains and collection systems surrounding landfills, filtration within dams. The geotextile is used adjacent to roadways and other critical structures, encapsulating leachate collection systems under landfills while maintaining long-term clogging resistance, and encapsulating edge drains for critical structures in problematic soils.

### INSTALLATION GUIDELINES\*

BANK STABILIZATION / ROCK (ARMOR) UNDERLAYMENT  
Geotextile Placement  
Place the geotextile in close contact with the soil, eliminating folds or excessive wrinkles



Mirafi® FW Woven Geotextile

both longitudinally and transversely. The geotextile need not be placed in tension before covering with riprap or other materials. Use care in placing the geotextile to avoid possible damage.

The geotextile can be joined by overlapping or sewing. Anchor the geotextile firmly at the top of the slope using an anchor trench. For maximum effectiveness, the trench should be at least 1m (3ft) from the crest of the slope and at least 0.6m (2ft) deep. Thoroughly compact soil in the trench to ensure good anchorage. When placing the geotextile along a stream or other places where water movements are expected, anchor the toe of the geotextile in a similar fashion as at the top to prevent scour beneath it.

\* These guidelines serve as a general basis for installation. Detailed instructions are available from your TenCate representative.



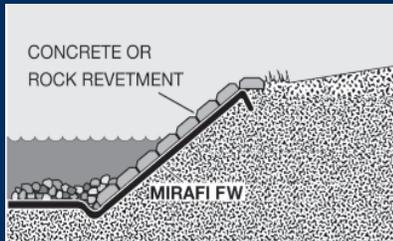
## Mirafi® FW Woven Geotextiles for Engineered Filtration

Property / Test Method	Units	FW300	FW402	FW403	FW404	FW500 <sup>1</sup>	FW700
<b>MECHANICAL PROPERTIES</b>							
<b>Wide Width Tensile Strength</b>							
ASTM D4595							
MD @ Ultimate	lbs/ft (kN/m)	2760 (40.3)	2400 (35.0)	3240 (47.3)	3000 (43.8)	2400 (35.0)	2700 (39.4)
CD @ Ultimate	lbs/ft (kN/m)	2700 (39.4)	1680 (24.5)	2700 (39.4)	2760 (40.3)	3300 (48.2)	1740 (25.4)
<b>Grab Tensile Strength</b>							
ASTM D4632							
MD	lbs (N)	400 (1780)	365 (1624)	425 (1891)	400 (1780)	375 (1669)	370 (1647)
CD	lbs (N)	335 (1491)	200 (890)	350 (1558)	315 (1402)	375 (1669)	250 (1113)
MD Elongation	%	20	24	21	15	15	15
CD Elongation	%	15	10	21	15	8	15
<b>Trapezoid Tear Strength</b>							
ASTM D4533							
MD	lbs (N)	145 (645)	115 (512)	145 (645)	150 (668)	120 (534)	100 (445)
CD	lbs (N)	125 (556)	75 (334)	125 (556)	165 (734)	120 (534)	60 (267)
<b>CBR Puncture Strength</b>							
ASTM D6241							
	lbs (N)	1250 (5563)	675 (3004)	1340 (5963)	1150 (5118)	1200 (5340)	950 (4228)
<b>UV Resistance after 500 hrs.</b>							
ASTM D4355							
	% Strength	90	90	90	90	70	90
<b>HYDRAULIC PROPERTIES</b>							
<b>Apparent Opening Size</b>							
(AOS) ASTM D4751							
	US Sieve (mm)	30 (0.60)	40 (0.43)	40 (0.43)	40 (0.43)	50 (0.30)	70 (0.212)
<b>Permittivity ASTM D4491</b>							
	sec <sup>-1</sup>	1.50	2.1	0.96	0.90	0.20	0.28
<b>Percent Open Area</b>							
COE-02215							
	%	8	10	6	1	3	4
<b>Flow Rate</b>							
ASTM D4491							
	(gal/min/ft <sup>2</sup> )	115	145	70	70	15	18
	l/min/m <sup>2</sup>	(4685)	(5907)	(2852)	(2852)	(611)	(733)
<b>Packaging</b>							
Roll Width	ft (m)	12.5 (3.8)	12.5 (3.8)	12.5 (3.8)	15 (4.6)	15 (4.6)	12 (3.7)
Roll Length	ft (m)	300 (91)	300 (91)	300 (91)	300 (91)	300 (91)	300 (91)
Est. Gross Weight	lbs (kg)	221 (100)	159 (72)	243 (110)	292 (132)	275 (125)	162 (74)
Area	yd <sup>2</sup> (m <sup>2</sup> )	417 (348)	417 (348)	417 (348)	500 (418)	500 (418)	400 (334)

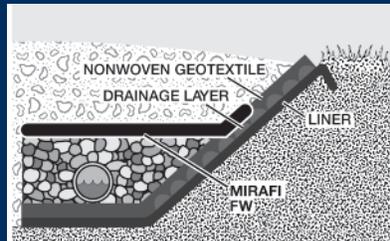
\*NOTE: Mechanical Properties and Hydraulic Properties shown are Minimum Average Roll Values (MARV). Apparent Opening Size (AOS) properties shown are Maximum Average Roll Values.

<sup>1</sup> Cross direction yarns are slit film

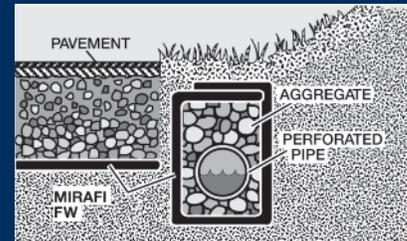
### Mirafi® FW Woven Geotextiles



Shoreline Erosion Control



Leachate Collection System



Cut-off/Interceptor Drain Along a Roadway

TenCate Geosynthetics Americas assumes no liability for the accuracy or completeness of this information or for the ultimate use by the purchaser. TenCate Geosynthetics Americas disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

Mirafi® is a registered trademark of Nicolon Corporation.

© 2014 Nicolon Corporation. All Rights Reserved.

PDS.FW0514

365 South Holland Drive Tel 800 685 9990 Fax 706 693 4400  
Pendergrass, GA 30567 Tel 706 693 2226 www.mirafi.com



**TENCATE**  
materials that make a difference