



# PROPEX Scourlok

**PROPEX® Scourlok®** is an Engineered Bank Stabilization system designed to resist extreme hydraulic stresses and protect shorelines. Scourlok is ideal for applications that need below water scour protection in addition to slope stabilization and erosion control. Scourlok is constructed of rigid cells armored with Pyramat® 75 High Performance Turf Reinforcement Mat (HPTRM) and internally lined with **MIRAFI®** nonwoven geotextile. Pyramat is fastened to the rigid cells to provide a flexible exterior, control erosion, and improve system durability and forms pockets that can be filled with mulch or other media to promote and sustain vegetation. The durable geotextile lining allows the rigid cell to be filled with earth, sand, gravel, crushed rock, and other granular material.

Scourlok provides permanent erosion protection from time of initial construction. Scourlok has superior strength and durability to withstand the most demanding environments. Scourlok conforms to the property values listed below<sup>1</sup> and is manufactured at a Solmax facility with ISO 9001:2015 and ISO 14001:2015 certifications. Solmax performs internal Manufacturing Quality Control (MQC) tests that have been accredited by the Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP).

## PROPEX Pyramat 75 HPTRM Properties

Properties	Test Method	English	Metric
<b>Origin of material</b>			
% U.S. Manufactured		100%	100%
<b>Environmental Impact</b>			
Carbon Footprint	GHG Protocol ISO 14064:2006 PAS2050:2011	2.7 kg CO <sub>2</sub> e/m <sup>2</sup>	
<b>Physical Properties</b>			
Mass/Unit Area <sup>4</sup>	ASTM D6566	14.0 oz/sy	475 g/m <sup>2</sup>
Thickness <sup>2</sup>	ASTM D6526	0.40 in	10.2 mm
Light Penetration (% Passing) <sup>3</sup>	ASTM D6567	10%	
Color	Visual	Green or Tan	
<b>Mechanical Properties</b>			
Tensile Strength <sup>2</sup>	ASTM D6818	4,000 x 3,000 lb/ft	58.4 x 43.8 kN/m
Elongation <sup>2</sup>	ASTM D6818	40 x 35%	
Resiliency <sup>2</sup>	ASTM D6524	80%	
Flexibility <sup>4</sup>	ASTM D6575	0.534 in-lb	616,154 mg-cm
<b>Endurance</b>			
UV Resistance % Retained at 3,000 hrs <sup>4</sup>	ASTM D4355	90%	
UV Resistance % Retained at 6,000 hrs <sup>4</sup>	ASTM D4355	90%	
<b>Fire Resistance</b>			
Burn Rate	FMVSS 302	< 1 ft/min.	
Time to Extinguish	FMVSS 302	< 1 sec.	

**NOTES:**

- <sup>(1)</sup> The property values listed above are effective 05/01/2023 and are subject to change without notice. Values represent testing at time of manufacture.
- <sup>(2)</sup> Minimum average roll values (MARV) are calculated as the typical minus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any samples taken from quality assurance testing will exceed the value reported.
- <sup>(3)</sup> Maximum Average Roll Value (MaxARV), calculated as the typical plus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any sample taken during quality assurance testing will meet to the value reported.
- <sup>(4)</sup> Typical average values shown.

Solmax is not a design or engineering professional and has not performed any such design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation, or specification.



### PROPEX Pyramat 75 HPTRM Properties

Properties	Test Method	English	Metric
<b>Performance</b>			
Velocity (Unvegetated with Anchors) <sup>4, 5</sup>	Large Scale	13 ft/s	4.0 m/s
Velocity (Vegetated) <sup>4, 5</sup>	Large Scale	25 ft/s	7.6 m/s
Shear Stress (Unvegetated with Anchors) <sup>4, 5</sup>	Large Scale	4.8 lb/ft <sup>2</sup>	230 Pa
Shear Stress (Vegetated) <sup>4, 5</sup>	Large Scale	16 lb/ft <sup>2</sup>	766 Pa
Manning's n (Unvegetated) <sup>4, 6</sup>	Calculated	0.028	
USACE / CSU Wave Overtopping	Large Scale	USACE Approved	
Seedling Emergence <sup>4</sup>	ASTM D7322	296%	

### MIRAFI Nonwoven Geotextile Properties

Properties	Test Method	English	Metric
<b>Physical</b>			
Mass Per Unit Area	ASTM D5261	6.5 oz/yd <sup>2</sup>	220 g/m <sup>2</sup>
Thickness	ASTM D5199	57 mils	1.37 mm
Color	Visual	Tan	
<b>Mechanical</b>			
Grab Tensile Strength	ASTM D4632	210 lbs	934 N
Grab Tensile Strength Elongation	ASTM D4632	80%	
Trapezoidal Tear	ASTM D4533	80 lbs	356 N
CBR Puncture	ASTM D6241	550 lbs	2,447 N
Apparent Opening Size (AOS)	ASTM D4751	0.004 in - 0.007 in	0.11 mm - 0.18 mm
Permittivity	ASTM D4491	1.1 sec <sup>-1</sup>	
<b>Endurance</b>			
UV Retention % Retained @ 1000 hrs	ASTM D4355	80%	
<b>Performance</b>			
Chemical Exposure (Diesel fuel and deicing fluid)	MIL-STD-810 Method 504.1	90%	
Acid and Alkali Exposure (Sulfuric Acid)	MIL-STD-810 Method 504.1	90%	
Acid and Alkali Exposure (Calcium Hydroxide)	MIL-STD-810 Method 504.1	80%	
High Temperature Exposure	MIL-STD-810 Method 501.5	90%	
Low Temperature Exposure	MIL-STD-810 Method 501.5	90%	
Blowing Sand Abrasion	MIL-STD-810 Method 501.5	85%	
Burn Propagation when filled		No Flame Spread	

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<sup>(3)</sup> Maximum Average Roll Value (MaxARV), calculated as the typical plus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any sample taken during quality assurance testing will meet to the value reported.

<sup>(4)</sup> Typical average values shown.

<sup>(5)</sup> Maximum permissible velocity and shear stress has been obtained through vegetated testing programs featuring specific soil types, vegetation classes, flow conditions, and failure criteria. These conditions may not be relevant to every project nor are they replicated by other manufacturers. Please contact Solmax for further information.

<sup>(6)</sup> Calculated as typical values from large-scale flexible channel lining test programs with a flow depth of 6 to 12 inches.

## B2 Anchor Properties

Component	Material	Properties <sup>4</sup>	English	Metric
<b>Physical</b>				
Anchor Head	Aluminum Alloy	Geometry	5.7 in x 1.9 in x 1.5 in	145 mm x 48 mm x 38 mm
		Bearing Area	9 in <sup>2</sup>	58 cm <sup>2</sup>
Cable Tendon	Galvanized Steel	Diameter	0.1875 in	4.8 mm
Lower Termination	Aluminum Ferrule	Length	1 in	25 mm
		Wall Thickness	0.1 in	3 mm
Load Bearing Plate	Aluminum Alloy	Diameter	6.3 in	160 mm
		Thickness	0.4 in	10 mm
		Bearing Area	20 in <sup>2</sup>	129 cm <sup>2</sup>
Top Termination	Aluminum Alloy	Circumferential Wedge Grip Assembly to Eliminate Cable Pinch Points		
		Grip to Cable Contact Surface Area	0.6 in <sup>2</sup>	3.9 cm <sup>2</sup>
		Grip to Cable Contact Ratio	> 80% of Cable Diameter	
<b>Performance <sup>4</sup></b>				
Ultimate Assembly Strength			2,600 lb	11.6 kN
Ultimate Cable Strength			3,700 lb	16.5 kN
Typical Working Load			400 – 1500 lb	1.8 – 6.7 kN
Embedment Depth			6 – 12 ft	1.8 – 3.7 m
Anchor Head Impact Strength			27,000 lb	120 kN
Anchor Head Impact Fatigue			> 12,000 Loading Cycles	
Load Bearing Plate Punching Shear			2,950 lb	13.1 kN
Load Bearing Plate / HPTRM Pull-Through			2,800 lb	12.5 kN

## Rigid Cell Properties

Properties <sup>4</sup>	Test Method	English	Metric
<b>Mechanical</b>			
Ultimate Tensile Strength	ASTM E8/E8M	99,350 psi	685 Mpa
Ultimate Tensile Elongation	ASTM E8/E8M	7%	
Weld Shear Strength	ASTM E8/E8M	70%	
<b>Dimensions</b>			
Rigid Cell		4 ft x 3 ft x 15 ft	1.2 m x 0.9 m x 4.5 m
Wire Diameter		0.157 inches	4 mm
Wire Mesh Spacing		3 in. x 3 in.	76 mm x 76 mm

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<sup>(6)</sup> Calculated as typical values from large-scale flexible channel lining test programs with a flow depth of 6 to 12 inches.



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