



# PROPEX Armormax 75 EC B1

PROPEX® Armormax® 75 EC is an Engineered Earth Armoring Solution™ used to provide permanent erosion protection in vegetated and unvegetated applications. It is composed of two components: PROPEX Pyramat® 75 High Performance Turf Reinforcement Mat (HPTRM) and B1 Engineered Earth Anchors. The anchor component is specifically designed and tested for compatibility and performance with Pyramat 75 HPTRM to provide a system solution. Armormax 75 features a proprietary ultraviolet stabilizer package, high tensile strength, superior hydraulic performance, and resistance to corrosion to provide an expected design life up to 75 years.

The Pyramat 75 HPTRM component is engineered to mitigate fire risk and increase the resilience of wildfire prone areas using non-halogen fire retardant technology. Pyramat 75 is available in green or tan. Pyramat 75 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).

The B1 Anchor model is used for permanent erosion protection applications and has a working load of up to 600 lbs. The B1 Anchor consists of an aluminum alloy anchor head, galvanized steel cable, aluminum ferrules, aluminum alloy load locking mechanism, and an aluminum alloy top plate. The bullet nose design of the anchor head allows the anchor to penetrate Pyramat 75 HPTRM resulting in minimal installation damage, while the load bearing plate provides improved connection to the HPTRM.

## 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%	
UV Resistance % Retained at 10,000 hrs <sup>4</sup>	ASTM D4355	85%	
<b>Fire Resistance</b>			
Burn Rate	FMVSS 302	< 1 ft/min.	
Time to Extinguish	FMVSS 302	< 1 sec.	
<b>Roll Sizes</b>		8.5 ft x 120 ft	2.6 m x 36.6 m
		15.0 ft x 120 ft	4.6 m x 36.6 m

**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	619%	

**B1 Anchor Properties**

Component	Material	Properties <sup>4</sup>	English	Metric
<b>Physical</b>				
Anchor Head	Aluminum Alloy	Geometry	3.6 in x 1.2 in x 1 in	91 mm x 30 mm x 25 mm
		Bearing Area	3.5 in <sup>2</sup>	23 cm <sup>2</sup>
Cable Tendon	Galvanized Steel	Diameter	0.125 in	3.2 mm
Lower Termination	Aluminum Ferrule	Length	0.6 in	15 mm
		Wall Thickness	0.1 in	3 mm
Load Bearing Plate	Aluminum Alloy	Diameter	4.5 in	114 mm
		Thickness	0.25 in	6 mm
		Bearing Area	10 in <sup>2</sup>	65 cm <sup>2</sup>
Top Termination	Aluminum Alloy	Circumferential Wedge Grip Assembly to	Eliminate Cable Pinch Points	
		Grip to Cable Contact Surface Area	0.2 in <sup>2</sup>	1.3 cm <sup>2</sup>
		Grip to Cable Contact Ratio	> 80% of Cable Diameter	
<b>Performance <sup>4</sup></b>				
Ultimate Assembly Strength			1,300 lb	5.8 kN
Ultimate Cable Strength			2,100 lb	9.3 kN
Typical Working Load			100 – 600 lb	0.4 – 2.7 kN
Embedment Depth			3 – 5 ft	0.9 – 1.5 m
Anchor Head Impact Strength			11,000 lb	49 kN
Anchor Head Impact Fatigue			> 12,000 Loading Cycles	
Load Bearing Plate Punching Shear			1,625 lb	7.2 kN
Load Bearing Plate / HPTRM Pull-Through			1,500 lb	6.7 kN

**NOTES:**

<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.