



Enkamat R45

High Performance Turf Reinforcement Mat

Description

Enkamat R45 incorporates a unique manufacturing process that integrates a high tenacity polyester geogrid within thermally fused and entangled, three-dimensional nylon monofilaments to create a homogeneous, high performance turf reinforcement mat (HP-TRM). This unitized matrix develops high strength at very low elongation and when combined with Percussive Earth Driven Anchors (PDEAs) creates Anchor Armor™ Anchor Reinforced Vegetation Solution (ARVS). The high profile Enkamat R45 matrix also provides a high friction, interlocking "grip layer" under vegetation that can withstand light vehicle traffic and periodic mowing on slopes up to 3H:1V. Enkamat R45 is manufactured from nylon and polyester to eliminate buoyancy factors associated with submerged conditions and does not contain any loose nettings, fibers or stitching threads that could endanger wildlife, entangle mowing equipment or contaminate the environment.

Recommended Applications

- Permanent erosion control for vegetated channels, canals, banks, shorelines and levees with expected shear stresses ≤ 20 psf.
- Permanent erosion control for moderate to steep slopes ($\leq 0.25H:1V$).
- Substrate for hydraulically applied Flexible Growth Medium™ (FGM) and Bonded Fiber

Technical Data

Mechanical Properties	Test Method	Units	Typical Roll Value	
			MARV MD	MARV CD
Ultimate Tensile Strength	ASTM D6818	kN/m (lb/ft)	45 (3000)	45 (3000)
Tensile Strength @ 2%Strain	ASTM D6818	kN/m (lb/ft)	6.5 (450)	6.5 (450)
Thickness	ASTM D6525	mm (in)	19.0 (0.75)	
Mass/Unit Area (TRM+Grid)	ASTM D6566	g/m^2 (oz/yd ²)	544 (16)	
UV Stability at 2000 hours	ASTM D4355	%	80	
Resiliency	ASTM D6524	%	80	

Performance Properties	Test Method	Units	Value
Permissible Velocity			
30 minute, unvegetated	Flume test ¹	m/s (ft/s)	4.9 (16)
60 minute, vegetated	Flume test ¹	m/s (ft/s)	6.1 (30)
50 hour, vegetated	Flume test ¹	m/s (ft/s)	4.2 (14)
Permissible Shear Stress			
30 minute, unvegetated	Flume test ¹	kN/m^2 (lb/ft ²)	0.28 (5.8)
60 minute, vegetated	Flume test ¹	kN/m^2 (lb/ft ²)	0.96 (20.0)
50 hour, vegetated	Flume test ¹	kN/m^2 (lb/ft ²)	0.48 (10.0)
Manning's n Range ²	Flume test ¹	()	0.025 — 0.045

1. Flume test performed at independent large scale laboratory — data and details available upon request.

2. Depending on vegetation type and height, use engineering field experience and examine a range of Manning's n values during design.

Packaging

Physical Properties	Units	Nominal Value
Dimensions [width x length]	m (ft)	2.44 x 27.4 (8.0 x 90)
Roll Area	m^2 (yd ²)	66.9 (80.0)
Estimated Roll Diameter	m (in)	0.6 (24)
Estimated Roll Weight	kg (lb)	36 (80)
Color	Observed	Black

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