

# LANDLOK® TURF REINFORCEMENT MATS

Landlok 1051

Landlok 450

Landlok 300

## Landlok TRM is a range of permanent erosion control products

### ■ 1st Generation (Landlok 450, Landlok 1051) Features and Benefits

- ▶ Provides permanent turf reinforcement to enhance vegetations natural ability to filter soil particles and prevent soil loss during storm events
- ▶ Utilises X3 fibre technology for up to 40% greater surface area to protect emerging seedlings and sediment retention
- ▶ 100% synthetic and UV stabilised

### ■ 2nd Generation (Landlok 300) Features and Benefits. All of the above, plus:

- ▶ A unique patented matrix of pyramids formed with X3 fibres that gridlocks soil in place under high flow rates
- ▶ Greater flexibility to maintain intimate contact with subgrade, resulting in fast seedling emergence and minimal soil loss
- ▶ Landlok 450: X3 fibre polypropylene, 2 nets (topside, underside)
- ▶ Landlok 1051: X3 fibre polypropylene, net (topside) and geotextile (underside)
- ▶ Landlok 300: Woven X3 fibre polypropylene



Up to 50 years  
(HPTRM Pyramat)

Up to 25 years  
(2nd Generation Landlok TRM)

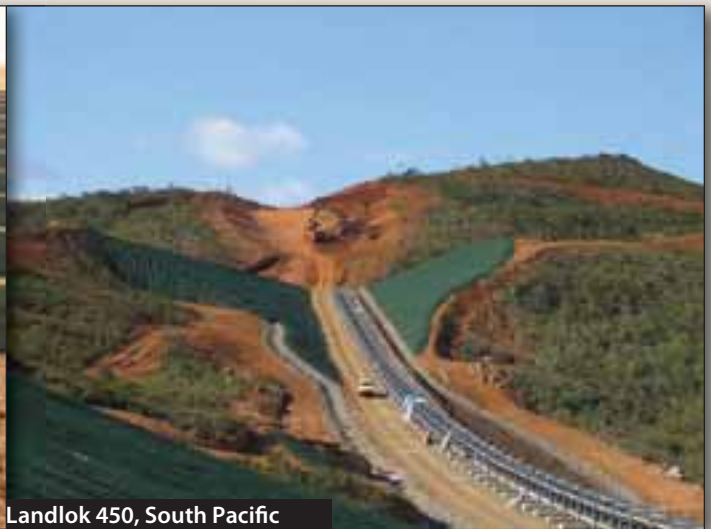
Up to 10 years  
(1st Generation Landlok TRM)

APPLICATION		STYLE	ANCHOR SUGGESTIONS (4)
SLOPES (1)	UP TO 1H:1V	LANDLOK 300	3 Anchors /m <sup>2</sup>
	UP TO 1.5H:1V	LANDLOK 450	2.5 Anchors /m <sup>2</sup>
	UP TO 2H:1V		
CHANNELS (2)	SHEAR STRESS UP TO 479 N/m <sup>2</sup>	LANDLOK 450	3 Anchors /m <sup>2</sup>
	VELOCITY UP TO 5.5 m/sec		
	SHEAR STRESS UP TO 576 N/m <sup>2</sup>		
	VELOCITY UP TO 6.1 m/sec		
BANKS (3)	WAVE ACTION < 30 cm	LANDLOK 1051	3 Anchors /m <sup>2</sup>

(1) For slopes steeper than 1H:1V, see Pyramat. (2) Values shown are for fully vegetated maximums. For channels with a shear stress greater than 576 N/m<sup>2</sup> and velocity greater than 6.1 m/sec, see Pyramat. (3) For wave action greater than 30cm, see Pyramat. (4) For Anchor styles, see Installation Guide.



Landlok 450, Tainui



Landlok 450, South Pacific

### Outperforms and is more cost-effective than:

- ▶ Rock riprap
- ▶ Concrete paving
- ▶ Erosion Control Blankets (ECB's)

### Main Properties of Landlok TRMs:

- Tensile strength: high strength and low strain minimises seed, root damage and material under heavy loads
- Flexibility: greater flexibility allows Landlok TRMs to conform and maintain intimate contact with the prepared grade, ensuring the success of installation
- UV resistance: all Landlok TRM components are constructed with the top tested UV stabilisers such as carbon black and hindered amine light stabilisers

## LANDLOK PRODUCT DATA (2)

PROPERTY	TEST METHOD	VALUES 450	VALUES 1051	VALUES 300
Mass/ Unit Area	ASTM D 6566	340 g/m <sup>2</sup>	475 g/m <sup>2</sup>	281 g/m <sup>2</sup>
Thickness	ASTM D 6525	10.1 mm	10.1 mm	7.6 mm
Light Penetration	ASTM D 6567	20%	5%	50%
Colour		Green, Tan	Tan	Green, Tan
Mechanical				
Tensile Strength	ASTM D 6818	5.8 x 4.3 kN/m	4.3 x 3.2 kN/m	35.0 x 29.2 kN/m
Tensile Elongation	ASTM D 6818	50% (max)	85% (max)	50%
Resiliency	ASTM D 6524	90%	80%	75%
Flexibility	ASTM D 6575	30,000 mg-cm (Typical)	25,000 mg-cm (Typical)	22,500 mg-cm (Typical)
Seedling Emergence <sup>3</sup>	ECTC Draft Method #4	409% (Typical)	220% (Typical)	296% (Typical)
UV Resistance	ASTM D 4355	80% (@ 1000 hrs)	80% (@ 1000 hrs)	90% (@ 3000 hrs)
Roll Size		2.0 m x 42.2 m (84 m <sup>2</sup> )	2.0 m x 42.2 m (84 m <sup>2</sup> )	2.6 m x 32.3 m (84 m <sup>2</sup> )

## PERFORMANCE VALUES

MATERIAL	FUNCTIONAL LONGEVITY	SHORT TERM MAXIMUM SHEAR STRESS & VELOCITY						MANNING'S "n"		
		VEGETATED (4,7)		PARTIALLY (5)		UNVEGETATED (6)		0- 15cm	15-30cm	30-60cm
Landlok 450	PERMANENT	479 N/m <sup>2</sup>	5.5 m/sec	383 N/m <sup>2</sup>	4.6 m/sec	239 N/m <sup>2</sup>	3.7 m/sec	0.035	0.025	0.021
Landlok 1051	PERMANENT	479 N/m <sup>2</sup>	5.5 m/sec	n/a	n/a	239 N/m <sup>2</sup>	3.7 m/sec	0.036	0.026	0.020
Landlok 300	PERMANENT	576 N/m <sup>2</sup>	6.1 m/sec	-	-	-	-	0.030	0.028	0.018

Notes: (1) The listed values are effective 08 2006 and are subject to change without notice. (2) Values are MARV (Minimum Average Roll Value calculated as the typical minus two standard deviations, statistically yielding a 97.7% degree of confidence that any sample taken during QA testing will exceed the reported value) unless indicated as Typical. (3) Calculated as percent increase in average plant biomass with tall fescue grass seed in sand 14 days after seeding versus traditional monofilament TRMs and HPTRMs. (4) Maximum permissible shear stress has been obtained through fully vegetated (70% to 100% density) 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. (6) Maximum permissible shear stress has been obtained through unvegetated (0% to 30% density) 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. (7) Maximum permissible shear stress achieved after only 14 weeks of vegetative establishment versus the industry standard of two full growing seasons.

## **Disclaimer**

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate.

While every effort has been made to provide accurate and reliable information, it is up to the user of this brochure to verify all information, including designs it might be based upon, with an independent source. Application of this data must be made on the basis of responsible professional judgement.

Except when agreed to in working conditions of use, no warranty expressed or implied is made regarding the performance of any product, since the manner of use and handling is beyond our control.