

# Material and Performance Specification

## BioNet<sup>®</sup> C125BN<sup>™</sup> Erosion Control Blanket

Tensar technical note

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TN\_BIONET\_C125BN

Description	
<p>The long-term double net erosion control blanket shall be a machine-produced mat of 100% coconut fibre with a functional longevity of up to 24 months. (NOTE: functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blanket shall be of consistent thickness with the coconut evenly distributed over the entire area of the mat. The blanket shall be covered on the top and bottom sides with 100% biodegradable woven natural organic fibre netting. The netting shall consist of machine directional strands formed from two intertwined yarns with cross directional strands interwoven through the twisted machine strands (commonly referred to as Leno weave) to form an approximate 1.27 x 2.54 cm mesh. The blanket shall be sewn together on 3.81 cm centres with degradable thread. The blanket shall be manufactured with a coloured thread stitched along both outer edges (approximately 5-12.5 cm from the edge) as an overlap guide for adjacent mats.</p> <p>The C125BN shall meet Type 4 specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) <i>FP-03 Section 713.17</i></p>	

Material Content		
Matrix	100% Coconut Fibre	0.27 kg/m <sup>2</sup>
Netting	Leno Woven 100% biodegradable jute	4.5 kg/100 m <sup>2</sup>
	100% biodegradable jute	3.76 kg/100 m <sup>2</sup>
Thread	Biodegradable	

Standard Roll Sizes	
Width	2.4 m
Length	35 m
Weight ± 10%	30 kg
Area	84 m <sup>2</sup>
	Leno Top and bottom

Bench Scale Testing (NTPEP)		
Test Method	Parameters	Results
ASTM D7101	50 mm/hr-30 min 100mm hr-30 min 150mm hr-30 min	SLR** = 11.25 SLR** = 16.37 SLR** = 23.82
ASTM D7207	Shear at 12.7 mm soil loss	136 Pa
ASTM D7322	Top Soil, Fescue, 21 day incubation	257% improvement of biomass
<small>* Bench scale tests should not be used for design purposes ** Soil Loss Ratio = Soil Loss Bare Soil/Soil Loss with RECP</small>		

Index Property	Test Method	Typical
Thickness	ASTM D6525	5.84 mm
Resiliency	ECTC Guidelines	85%
Water Absorbency	ASTM D1117	365%
Mass/Unit Area	ASTM 6475	333 g/m <sup>2</sup>
Swell	ECTC Guidelines	40%
Smoulder Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D1388	1218 mg-cm
Light Penetration	ASTM D6567	16.2%
Tensile Strength - MD	ASTM D6818	3.06 kN/m
Elongation - MD	ASTM D6818	15.3%
Tensile Strength - TD	ASTM D6818	2.15 kN/m
Elongation - TD	ASTM D6818	12.9%

Maximum Permissible Shear Stress	
Unvegetated Shear Stress	112 Pa
Unvegetated Velocity	3.05 m/s

Slope Design Data: C Factors			
Slope Length (L)	Slope Gradients (S)		
	≤ 3:1	3:1 - 2:1	≥ 2:1
≤ 6 m	0.0001	0.018	0.050
6-15 m	0.003	0.040	0.060
≥ 15 m	0.007	0.070	0.070

Roughness Coefficients - Unveg.	
Flow Depth	Manning's n
≤ 0.15 m	0.022
0.15 - 0.60 m	0.022 - 0.014
≥ 0.60 m	0.014



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