

# MATERIAL PROPERTY DATA SHEET

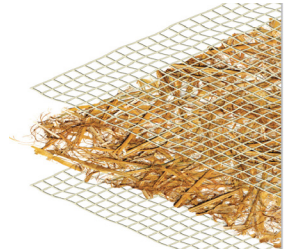


## EXCEL CS-3 All Natural™

Extended Term • Double Net • Coconut/Straw Matrix • Biodegradable • Erosion Control Blanket

### DESCRIPTION

Excel CS-3 All Natural (CS-3AN) Extended Term Erosion Control Blanket consists of 30% coconut fibers and 70% weed free agricultural straw manufactured into a continuous matrix. The coconut/straw matrix is confined by a biodegradable, jute/scrim net on top and bottom, mechanically (stitch) bound on two-inch centers with a biodegradable, cotton thread. Excel CS-3AN is intended for slope and channel erosion control applications requiring up to twenty-four months of functional longevity. The material is fully degradable. The net, thread, and the fiber matrix is biodegradable. Actual field longevity is dependent on soil and climatic conditions.



Each roll of Excel CS-3AN is made in the USA and manufactured under Western Green's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness.

*CS-3AN has replaced ECSC-2B, formerly provided by East Coast Erosion. CS-3AN meets or exceeds the ECSC-2B and can be used as a replacement with no limitations.*

### Material Content

Matrix	Straw/Coconut Blend		
Netting	Top & Bottom Net: Jute Scrim, Biodegradable, Leno Weave	Double Net	
Thread	Biodegradable Cotton or Rayon		

### Standard Roll Sizes

Width	8 ft (2.4 m)	16 ft (4.9 m)
Length	112 ft (34.1 m)	563 ft (171.0 m)
Weight ± 10%	53 lb (24.1 kg)	530 lb (241.0 kg)
Area	100 sy (83.6 m <sup>2</sup> )	1000 SY (836.0 m <sup>2</sup> )

Material available in custom roll sizes

### Approvals & Classification

FHWA/ECTC Class	Type 3.B
TTI Approvals	Class 2 Type E
NTPEP Number	ECP-2020-01-010

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### Index Property Test Method Typical

Thickness	ASTM D6525	0.30 in. (8 mm)
Mass/Unit Area	ASTM D6566	8.5 oz/sy (290 g/sm)
Tensile Strength – MD	ASTM D6818	210 lbs/ft (3.1 kN/m)
Tensile Strength – TD	ASTM D6818	190 lbs/ft (2.8 kN/m)
Elongation - MD	ASTM D6818	15%
Elongation – TD	ASTM D6818	15%
Density/Specific Gravity	D792	N/A
Light Penetration	ASTM D6567	12%
Biomass Improvement	ASTM D7322	500%
Water Absorption	ASTM D1117	350%

### Design Parameters

Property	Unvegetated	Vegetated <sup>3</sup>
RUSLE C Factor <sup>2</sup>	0.03	N/A
Slope Maximum Gradient <sup>1</sup>	2H:1V	N/A
Permissible Shear Stress <sup>2</sup>	2.1 psf (100 Pa)	N/A
Permissible Velocity <sup>2</sup>	8.0 fps (2.4 m/s)	N/A

### Manning's n Roughness (HEC-15)

$\tau_{lower}$	$\tau_{mid}$	$\tau_{upper}$
0.045	0.036	0.031

<sup>1</sup> Maximum Gradient a recommendation for typical insllations.

<sup>2</sup> Hydraulic thresholds compliant with ASTM D6459/D6460 but generalized for typical applications.

<sup>3</sup> Vegetated values dependent on established stand of vegetation

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Scan for additional and updated product information, or [click here](#).

