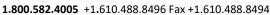


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443 Bricker Road Bernville, PA 19506









Material and Performance Specification

ECC-2[™] Double Net Coconut Rolled Erosion Control Product

Description:

The ECC-2™ is made with uniformly distributed 100% coconut fiber and two polypropylene nets securely sewn together with UV stabilized thread. The tightly compressed blankets are wrapped and include a product label, code and installation guide. The blankets are palletized for easy transportation.

The ECC-2™ has functional longevity of approximately 36 months, but will vary depending on soil and climatic conditions, and is suitable for slopes 1:1 and medium to high flow channels. The ECC-2™ meets Type 4.B specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.17.

Matrix:	1	2	
	100% Coconut	N/A	
Netting:	Туре		Net Color
Top: Med	dium weight UV Stabilized Polypropylene		Black
Middle: Non	ie		
Bottom: Med	dium weight UV Stabilized Polypropylene		
Net Opening:	Тор	Middle	Bottom
	0.75" x 0.75"	N/A	0.75" x 0.75"
Thread:	Туре	Color	
	UV Stabilized Thread	Black	
Roll Sizes:	Standard	"A" Size	Mega
Width:	8 ft 2.4 m	4.00 ft 1.2 m	16 ft 4.9 m
Length:	112.5 ft 34.3 m	225 ft 68.6 m	112.5 ft 34.3 m
Weight*:	57 lbs 25.9 kg	57 lbs 25.9 kg	114 lbs 51.7 kg
Area:	100 yd² 83.6 m²	100 yd² 83.6 m²	200 yd² 167.2 m²
#/Pallet:	25	9	25

^{*}Weight at time of manufacturing.

Index Value Properties*:						
Property	Test Method		Typical			
Mass/Unit Area	ASTM D6475	8.30 oz/yd²	2 281.4 g/m2			
Thickness	ASTM D6525	0.26 in	6.60 mm			
Tensile Strength-MD	ASTM D6818	260.00 lb/ft	3.79 kN/m			
Elongation-MD	ASTM D6818	20 %				
Tensile Strength-TD	ASTM D6818	175.00 lb/ft	2.55 kN/m			
Elongation-TD	ASTM D6818	20.0 %				
Light Penetration	ASTM D6567	16 %				
Density / Specific Gravity	ASTM D792	N/A g/cm ³				
Water Absorption	ASTM D1117	382 %				
*May differ depending up	on raw material v	ariations				

Slope Performance Design Values*:						
Property	Test Me	thod	Value			
C-Factors	ASTM D	6459	0.01			
Slope Length (L)	≤ 3:1	3:1-2:1	≥ 2:1			
< 50 ft (15 m)	0.005	0.015	0.065			
50 ft – 100 ft	0.013	0.030	0.078			
>100 ft (30 m)	0.022	0.045	0.082			

^{*}Large-Scale Results obtained by 3rd Party GAI Accredited Independent Laboratory

Test Method	Parameters	Results
	50mm (2in) / hr-30 min	SLR**=8.45
ECTC Method 2 Rainfall	100mm (4in) / hr-30 min	SLR**=10.43
	150mm (6in) / hr-30 min	SLR**=12.90
ECTC Method 3 Shear Resistan	ce Shear at .50 in soil loss	2.59 lb/ft ²
ECTC Method 4 Germination	Top soil; Fescue; 21 day incub	oation 772 %
*Bench scale tests should not l	be used for design purposes.	

^{***}The preceding test data excerpts were reproduced with the permission

**Soil Loss Ratio=Soil Loss Bare Soil/Soil Loss with RECP=1/C-Factor

of AASHTO, however, this does not constitute endorsement or approval of the product, material or device by AASHTO

Channel Performance Design Values*:					
Property	Test Method	Value			
Unvegetated Shear Stress	ASTM D 6460	2.50	lbs/ft ²	119.70	Pa
Unvegetated Velocity	ASTM D 6460	10.0	ft/s	3.05	m/s
Vegetated Shear Stress	NA	N/A	lbs/ft ²	N/A	Pa
Vegetated Velocity	NA	N/A	ft/s	N/A	m/s
Manning's N (Value Represents a Range)			0.02	25	

^{*}Large-Scale Results obtained by 3rd Party GAI Accredited Independent Laboratory



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Material and Performance Specification

ECC-2B™ Double Net Coconut Biodegradable Rolled Erosion Control Product

Description:

The ECC-2B™ is made with uniformly distributed 100% coconut fiber and two organic jute nets securely sewn together with biodegradable thread. The tightly compressed blankets are wrapped and include a product label, code and installation guide. The blankets are palletized for easy transportation.

The ECC-2B™ has functional longevity of approximately 24 months, but will vary depending on soil and climatic conditions, and is suitable for slopes 1:1 and medium to high flow channels. The ECC-2B™ meets Type 4.B specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.17.

Matrix:	1	2	
	100% Coconut	N/A	
Netting:	Туре		Net Color
Top:	Organic Leno Weave Jute		Natural
Middle:	None		
Bottom:	Organic Leno Weave Jute		
Net Opening:	Тор	Middle	Bottom
	0.5" x 1.0"	N/A	0.5" x 1.0"
Thread:	Туре	Color	
	Biodegradable Thread	Natural	
Roll Sizes:	Standard	"A" Size	Mega
Width:	8 ft 2.4 m	4.00 ft 1.2 m	16 ft 4.9 m
Length:	112.5 ft 34.3 m	225 ft 68.6 m	112.5 ft 34.3 m
Weight*:	60 lbs 27.2 kg	60 lbs 27.2 kg	120 lbs 54.4 kg
Area:	100 yd² 83.6 m²	100 yd² 83.6 m²	200 yd² 167.2 m²
#/Pallet:	20	9	20

^{*}Weight at time of manufacturing.

Index Value Properties*:						
Property	Test Method		T	ypical		
Mass/Unit Area	ASTM D6475	9.50	oz/yd²	322.1 g/m2		
Thickness	ASTM D6525	0.23	in	5.84 mm		
Tensile Strength-MD	ASTM D6818	223.00	lb/ft	3.25 kN/m		
Elongation-MD	ASTM D6818	11	%			
Tensile Strength-TD	ASTM D6818	150.00	lb/ft	2.19 kN/m		
Elongation-TD	ASTM D6818	16.0	%			
Light Penetration	ASTM D6567	13	%			
Density / Specific Gravity	ASTM D792	N/A	g/cm ³			
Water Absorption	ASTM D1117	340	%			

^{*}May differ depending upon raw material variations

Value
0.04
1 ≥ 2:1
0.095
0.105
0.115
)

^{*}Large-Scale Results obtained by 3rd Party GAI Accredited Independent Laboratory

Bench-Scale Testing* (NTPEP***):					
Test Method	Parameters	Results			
	50mm (2in) / hr-30 min	SLR**=14.16			
ECTC Method 2 Rainfall	100mm (4in) / hr-30 min	SLR**=18.25			
	150mm (6in) / hr-30 min	SLR**=23.24			
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	2.76 lb/ft ²			
ECTC Method 4 Germination To	op soil; Fescue; 21 day incub	oation 501 %			
*Bench scale tests should not be	used for design purposes.				
**Soil Loss Ratio=Soil Loss Bare S	Soil/Soil Loss with RECP=1/C	-Factor			

^{***}The preceding test data excerpts were reproduced with the permission of AASHTO, however, this does not constitute endorsement or approval of the product, material or device by AASHTO

Channel Performance Design Values*:						
Property	Test Method		Value			
Unvegetated Shear Stress	ASTM D 6460	2.25	lbs/ft ²	107.73	Pa	
Unvegetated Velocity	ASTM D 6460	9.0	ft/s	2.74	m/s	
Vegetated Shear Stress	NA	N/A	lbs/ft ²	N/A	Pa	
Vegetated Velocity	NA	N/A	ft/s	N/A	m/s	
Manning's N (Value Repres		0.02	25			

^{*}Large-Scale Results obtained by 3rd Party GAI Accredited Independent Laboratory