

# Futerra<sup>®</sup> F4 Netless<sup>®</sup>



## Futerra<sup>®</sup> F4 Netless<sup>®</sup> Proven 99% Effective

Futerra<sup>®</sup> F4 Netless<sup>®</sup> blankets provide greater aesthetic appeal, are easier to install and provide an unparalleled 99.9% erosion control effectiveness and faster germination than traditional stitch-bonded straw, coconut and excelsior blankets that are plagued by dangerous and unsightly loose nettings and threads.

Through a proprietary and patented process, Futerra uses Thermally Refined<sup>®</sup> wood and degradable man-made fibers that are intertwined into a dimensionally stable composite matrix that conforms to the soil surface, preventing washouts and seed migration. This innovative technology allows Futerra to rapidly absorb water and hold it in place for enhanced germination and growth.



**GENERAL**

**1.01 SUMMARY**

**(Section 31 25 13 – Erosion Controls)**

A. The Netless Erosion Control Blanket (NECB) shall consist of an open, flexible and dimensionally stable network of degradable, thermally-bonded wood and crimped, interlocking man-made fibers. The porous matrix shall have a functional longevity of up to 12 months and provide highly effective erosion protection for steep slopes, low flow channels, wetlands and other environmentally sensitive areas. The highly absorbent NECB shall facilitate rapid germination and accelerate plant growth. The netless erosion control blanket shall be provided in a turf green color (fugitive biodegradable vegetable dye) or in a natural wood color to ensure enhanced visual aesthetics. Under no circumstances will erosion control blankets containing nets or stitching threads be accepted.

B. Related Sections: Other Specification Sections, which directly relate to the work of this Section include, but are not limited to the following:

1. Section 01 57 00 - Temporary Erosion and Sediment Control
2. Section 31 20 00 - Earthwork; Establishment of Subgrade
3. Section 31 25 00 - Erosion and Sediment Control
4. Section 32 92 00 - Lawns and Gardens

**1.02 SUBMITTALS**

- A. Product Data: Submit manufacturer's product data and installation instructions. Include required substrate preparation and list of materials.
- B. Certifications: Manufacturer shall submit a letter of certification that the product meets or exceeds all physical property, endurance, performance and packaging requirements.

**1.03 DELIVERY, STORAGE AND HANDLING**

A. Deliver materials and products in UV and weather-resistant factory labeled packages. Store and handle in strict compliance with manufacturer's instructions and recommendations. Protect from damage, weather, excessive temperatures and construction operations.

**PRODUCTS**

**2.01 ACCEPTABLE MANUFACTURER**

A. PROFILE Products LLC  
 750 Lake Cook Road – Suite 440  
 Buffalo Grove, IL 60089  
 800-508-8681 (Fax 847-215-0577)  
 www.profileproducts.com

**2.02 MATERIALS**

A. The NECB shall be Fujerray® F4 Netless® as manufactured by Profile Products, LLC and shall conform to the property values as noted.

**B. PACKAGING**

ROLL DIMENSIONS	ROLL AREA	AVERAGE WEIGHT	ROLLS/PALLET	TRUCKLOAD QUANTITY
32.5' x 90' 1 m x 27.4 m	32.5 yd <sup>2</sup> 27.4 yd <sup>2</sup>	10.25 lb 4.66 kg	32	24,960 yd <sup>2</sup> 20,866 m <sup>2</sup>
6.5' x 90' 2 m x 27.4 m	65 yd <sup>2</sup> 54.8 m <sup>2</sup>	20.5 lb 9.32 kg	16	24,960 yd <sup>2</sup> 20,866 m <sup>2</sup>

Rolls: Available in green or natural color; Individually wrapped in UV resistant plastic film with printed installation guidelines  
 Pallets: Weather-resistant stretch wrap for outdoor storage

**C. PROPERTIES**

	TEST METHOD	ENGLISH	SI
<b>PHYSICAL</b>			
Mass Per Unit Area	ASTM D6475	5 oz/yd <sup>2</sup>	170 g/m <sup>2</sup>
Thickness	ASTM D6525	0.2 in	5.1 mm
Tensile Strength	ASTM D6818	4.3 lb/ft	0.8 kN/m
% Ground Cover	ASTM D6567	79%	79%
Flexural Rigidity	ASTM D6575	0.006 oz-in	435 mg-cm
Water Absorption	ASTM D1117	395%	395%
Shear Stress	ASTM D7207	1 lb/ft <sup>2</sup>	48 Pa
<b>ENDURANCE</b>			
Functional Longevity	Observed	≤ 12 months	≤ 12 months
<b>PERFORMANCE</b>			
Cover Factor <sup>1</sup> (6 in/hr event)	ASTM D7101	0.02	0.02
% Effectiveness	ASTM D7101	98%	98%
Cover Factor <sup>1</sup>	Large Scale <sup>2</sup>	0.002	0.002
% Effectiveness	Large Scale <sup>2</sup>	99.8%	99.8%
Vegetation Establishment	ASTM D7322	476%	476%

1. Cover Factor is calculated as soil loss ratio of treated surface versus an untreated control surface. One minus Cover Factor multiplied by 100% equals % Effectiveness.
2. Large scale testing conducted at Utah Water Research Laboratory, San Diego State University/Soil Research Laboratory, Texas Transportation Institute and TRI/Environmental, Inc. For specific testing information please contact a Profile technical service representative at 800-508-8681.

**EXECUTION**

**3.01 SUBSTRATE AND SEEDBED PREPARATION**

- A. Examine substrate and conditions where materials will be installed. Install NECB on geotechnically stable slopes that have been designed and constructed to divert runoff away from the slope face. Do not proceed with installation until satisfactory conditions are established.
- B. Strictly comply with manufacturer's installation instructions and recommendations. Slope interruption devices or water diversion techniques are recommended when slope gradients exceed 4V:1H and slope lengths exceed 40'. The soil surface should be stable, firm and free of rocks and other obstructions greater than 2" diameter. Install NECB in the primary direction of flow after application of seed, fertilizer and any other necessary soil amendments.

**3.02 INSTALLATION**

- A. Slopes: Construct 6" by 6" anchor trench 1'-3' above the slope crest for entire length of slope to be treated. Unroll approximately 2' of NECB, place blanket upside down in anchor trench, anchor on 1' centers, backfill trench with compacted soil and roll blanket right side up over the compacted trench and down slope. Begin unrolling NECB down slope taking care to not allow roll to fall freely. Evenly apply anchors to leading roll edge every 2'-5' depending upon site conditions. Drive all anchoring devices flush with the soil surface.

To ensure maximum soil contact, do not stretch NECB over soil surface. When installing 6.5' wide rolls, it may be necessary to anchor center of roll every 5'-10' depending upon site conditions. Repeat anchor trench procedure above, overlap a maximum of 2' depending upon site conditions. Repeat same stapling frequency as leading edge, stapling every 2'-5', securing both rolls with a common anchor. Shingle lap successive rolls 2"-4" in downstream direction of the slope. Secure terminating roll ends by anchoring on 1' centers.

B. Channels: Construct 6" by 6" anchor trench at the beginning of the channel across the entire width and follow above directions for trench details. Follow above directions for edge and roll end overlaps and anchoring techniques. Increase anchoring rate to at least 1.5 anchors per square yard. Depending upon site conditions construct additional 6" by 6" anchor trenches or check slots at intervals along the channel reach and at the terminal end of the channel.

To maximize blanket to soil contact, irrigate treated areas immediately after installation. Evenly apply water at 2000 gallons/acre to simulate natural rainfall. Do not irrigate if rainfall is imminent.

**3.03 CLEANING AND PROTECTION**

- A. Clean up all installation trash. Advise owner of methods for protection of treated areas. Do not allow treated areas to be trafficked or subjected to grazing.

*An electronic text file of this CSI formatted specification can be obtained by contacting a technical service representative at 800-508-8681.*