

GUIDE SPECIFICATION FOR EXTENDED TERM - FLEXIBLE GROWTH MEDIUM

SECTION 02925

EXTENDED TERM - FLEXIBLE GROWTH MEDIUM

PART 1 GENERAL

1.01 SUMMARY

- A. This section specifies a hydraulically-applied Extended Term - Flexible Growth Medium (ET-FGM) composed of long strand, thermally refined wood fibers, coconut fibers, crimped, interlocking man-made fibers and performance enhancing additives. The ET-FGM requires no curing period and upon application forms an intimate bond with the soil surface to create a continuous, porous, absorbent and flexible erosion resistant blanket that allows for rapid germination and accelerated plant growth.
- B. Related Sections: Other Specification Sections which directly relate to the work of this Section include, but are not limited to, the following:

Section 01570 - Temporary Erosion and Sediment Control
Section 02300 - Earthwork; Establishment of Subgrade
Section 02370 - Erosion and Sedimentation Control
Section 02920 - Lawns and Grasses

1.02 SUBMITTALS

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

1.03 DELIVERY, STORAGE, AND HANDLING

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 from weather, excessive temperatures, and construction operations.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

PROFILE Products LLC, 750 Lake Cook Road – Suite 440, Buffalo Grove, IL 60089,
Phone - 800-366-1180, Fax - 847-215-0577, website – www.profileproducts.com.

2.02 MATERIALS

Extended Term - Flexible Growth Medium shall be CocoFlex™ ET-FGM and conform to the following property values when uniformly applied at a rate of 3500 pounds per acre (3900 kilograms/hectare) under laboratory conditions.

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	TEST METHOD ¹	ENGLISH	SI
Physical			
Mass Per Unit Area	ASTM D6566	11.5 oz/yd ²	390 g/m ²
Thickness	ASTM D6525	0.23 in	5.8 mm
% Ground Cover	ASTM D6567	99%	99%
Water Holding Capacity	Profile Products ²	1500%	1500%
Cure Time	Observed	< 2 hr	< 2 hr
Color (fugitive dye)	Observed	Green	Green
Endurance			
Functional Longevity	Observed	Up to 2 yr	Up to 2 yr
Performance			
Cover Factor ³ (6 in/hr event)	ECTC Test Method #2	0.01	0.01
% Effectiveness ⁴	ECTC Test Method #2	99%	99%
Cover Factor (5 in/hr event)	Large Scale ⁵	0.00005	0.00005
% Effectiveness ⁴	Large Scale ⁵	>99.99%	>99.99%
Shear Stress	ASTM D7207	1.6 lb/ft ²	77 Pa
Vegetation Establishment	ECTC Test Method #4	511%	511%

1. ASTM and ECTC (Erosion Control Technology Council) test methods developed for Rolled Erosion Control Products.
2. Water Holding Capacity test developed by Profile Products LLC.
3. Cover Factor is calculated as soil loss ratio of treated surface versus an untreated control surface.
4. % Effectiveness = One minus Cover Factor multiplied by 100%.
5. Large Scale rainfall simulator and test beds at Utah Water Research Laboratory – one hour event, 2.5H:1V slope, sandy-loam soil

2.03 COMPOSITION

All components of the ET-FGM shall be pre-packaged by the Manufacturer to assure material performance and in compliance with the following values. **Under no circumstances will field mixing of additives or components be accepted.**

- Thermally Processed Wood Fibers – 51% ± 2%
- Coconut Fibers – 21.5% ± 2%
- Proprietary Crosslinked Hydro-Colloid Tackifiers and Activators – 10% ± 1%
- Proprietary Crimped, Interlocking Fibers – 7.5% ± 1%
- Moisture Content – 10% ± 2%

2.04 PACKAGING

- Bags: Net Weight - 50 lb, UV and weather-resistant plastic film
- Pallets: Weather-proof, stretch-wrapped with UV resistant pallet cover
40 bags/pallet or 1 ton/pallet

PART 3 EXECUTION

3.01 SUBSTRATE AND SEEDBED PREPARATION

- A. Examine substrates and conditions where materials will be applied. Apply product to geotechnically stable slopes that have been designed and constructed to divert runoff away from the face of the slope. Do not proceed with installation until satisfactory conditions are established.
- B. Depending upon project sequencing and intended application, prepare seedbed in compliance with: Section 01570 - Temporary Erosion and Sediment Control

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Section 02300 - Earthwork; Establishment of Subgrade
 Section 02370 - Erosion and Sedimentation Control
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3.02 INSTALLATION

- A. Strictly comply with manufacturer's installation instructions and recommendations. For optimum pumping and application performance use approved mechanically agitated, hydraulic seeding/mulching machines with a fan-type nozzle (50-degree tip). Apply ET-FGM from opposing directions and to achieve maximum soil coverage.

- B. Erosion Control and Revegetation:

For maximum performance, apply ET-FGM in a two-step process:

Step One: Mix and apply seed and soil amendments with small amount of ET-FGM for visual metering.

Step Two: Mix and apply ET-FGM at a rate of 50 lb per 125 gallons (23 kg/475 liters) of water over freshly seeded surfaces. Confirm loading rates with equipment manufacturer. Do not leave seeded surfaces unprotected, especially if precipitation is imminent.

Depending upon site conditions ET-FGM may be applied in a one-step process where all components may be mixed together in single tank loads. Consult with manufacturer for further details.

- C. Mixing:

A mechanically agitated hydraulic-application machine is recommended:

- i. Fill tank to middle of agitator shaft or tank about 1/3 full of water. Turn on pump to wet or purge lines. Begin agitating. Keep adding water slowly while adding the ET-FGM at a steady rate.
- ii. Consult application and loading charts to determine number of bags to be added. Mix at a rate of 50 lbs. of ET-FGM per 125 gallons (23kg/475 liters). Contact equipment manufacturer to confirm optimum ET-FGM mixing rates.
- iii. All ET-FGM should be loaded when the tank is approximately 3/4 full.
- iv. Fertilizer should be added once the tank is nearly full.
- v. Before applying, mix the slurry for at least 10 minutes after adding the last amount of ET-FGM. This is very important to fully activate the bonding additives and to attain proper viscosity.
- vi. Turn off recirculation valve to minimize potential for air entrainment within the slurry.

- D. Application:

Use a fan-type nozzle (50-degree tip) whenever possible for best soil surface coverage. Apply ET-FGM from opposing directions to soil surface, reducing the "shadow effect" and assuring a minimum of 95% of soil surface coverage. Slope interruption devices or water diversion techniques should be employed to reduce "run on" surface drainage from slopes above all installations. These devices/techniques are also recommended when slope lengths exceed 100 ft (30m) and/or slopes $\geq 3H;1V$. Install materials at the following minimum application rates:

Slope Gradient/Condition	English	SI
$\leq 3H$ to $1V$	3000 lb/ac	3400 kg/ha
$>3H$ to $1V$ and $\leq 2H$ to $1V$	3500 lb/ac	3900 kg/ha
$>2H$ to $1V$ and $\leq 1H$ to $1V$	4000 lb/ac	4500 kg/ha
$>1H$ to $1V$	4500 lb/ac	5100 kg/ha
Below ECB or TRM	1500 lb/ac	1700 kg/ha
As infill for TRM	3500 lb/ac	3900 kg/ha

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Increase application rates on highly erosive soils or chiseled, disked, furrowed or tracked slopes. Contact Manufacturer for additional details.

Material should not be applied in channels, swales or other areas where concentrated flows are anticipated, unless installed in conjunction with a temporary erosion control blanket or non-degradable turf reinforcement mat.

After application, thoroughly flush the tank, pumps and hoses to remove all ET-FGM material. Wash all material from the exterior of the machine and remove any slurry spills. ET-FGM will be more difficult to remove once it dries.

3.03 CLEANING AND PROTECTION

Clean spills promptly. Advise Owner of methods for protection of treated areas. Do not allow treated areas to be trafficked or subjected to grazing.

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