

Section 02925

# Flexible Growth Medium

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## **PART 1 GENERAL**

### **1.01 SUMMARY**

- A. This section specifies a hydraulically-applied Flexible Growth Medium (FGM) composed of long strand, thermally processed wood fibers, crimped, interlocking fibers and performance enhancing additives. The 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](http://www.profileproducts.com).

### **2.02 MATERIALS**

Flexible Growth Medium: Flexterra FGM®, as manufactured by PROFILE Products LLC and shall conform to the following typical property values when uniformly applied at a rate of 3500 pounds per acre (3900 kg/ha).

	TEST METHOD	ENGLISH	SI
<b>PHYSICAL</b>			
Mass Per Unit Area	ASTM D-6566	11.5 oz/yd <sup>2</sup>	390 g/m <sup>2</sup>
Thickness	ASTM D-6525	0.19 in	4.8 mm
% Ground Cover	ASTM D-6567	99%	99%
Water Holding Capacity	Proposed ASTM	1500%	1500%
Flexural Rigidity (wet)	ASTM D-6575	5 oz-yd	10,000 mg-cm
Cure Time	Observed	< 2 hr	< 2 hr
Color (fugitive dye)	Observed	Green	Green
<b>ENDURANCE</b>			
Functional Longevity	Observed	Up to 1 yr	Up to 1 yr
<b>PERFORMANCE</b>			
Cover Factor (6 in/hr event)	ECTC Test Method #2	0.0066	0.0066
% Effectiveness	ECTC Test Method #2	99.34%	99.34%
Shear Stress	ECTC Test Method #3	1 lb/ft <sup>2</sup>	48 Pa
Vegetation Enhancement	ECTC Test Method #4	800%	800%

*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.*

## 2.03 COMPOSITION

All components of the 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 – 76% ± 3.5%  
 Proprietary Crosslinked Hydro-Colloid Tackifiers and Activators – 10% ± 1%  
 Proprietary Crimped, Interlocking Fibers – 5% ± 1%  
 Moisture Content – 10.5% ± 1.5%

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

### 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 FGM from opposing directions and to achieve best soil coverage.

**B. Erosion Control and Revegetation:**

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

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

Step Two: Mix and apply 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 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 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 FGM per 125 gallons (23kg/475 liters). Contact equipment manufacturer to confirm optimum FGM mixing rates.
- iii. All 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 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 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 are recommended when slope lengths exceed 100 feet (30 m). Install materials at the following minimum application rates:

CONDITION	ENGLISH	SI
3H to 1V .....	3000 lb/ac .....	3400 kg/ha
>3H to 1V and 2H to 1V .....	3500 lb/ac .....	3900 kg/ha
>2H to 1V and 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

*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 FGM material. Wash all material from the exterior of the machine and remove any slurry spills. 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.

