




Flexible Growth Medium (FGM)
The Ultimate Medium for
Erosion Control and Revegetation

Flexterra FGM



Your Trusted Partner In Soil Solutions 

Flexible Slope Protection at the Lowest Overall Cost.



**INSTALLED COST PER ACRE*
INCLUDING SEED,
FERTILIZER, AND LABOR**

Flexterra® dramatically reduces overall costs. The savings are even more dramatic when you consider the extensive soil preparation blankets require to minimize voids and bridging over the soil surface.

*Based on installed rate of 2,500 lb per acre.

Flexterra® has consistently outperformed any and all competitive vegetated slope protection technologies, including Bonded Fiber Matrices and Erosion Control Blankets.

New Flexterra® FGM is a revolutionary component of Profile Erosion Control Solutions (PECS™), the industry's most comprehensive assortment of erosion and sediment control technology combined with on-site expertise and unfailing support. Like all products within the PECS arsenal, Flexterra is specifically engineered to deliver optimum performance under demanding conditions.



Nothing controls soil erosion and accelerates seed germination like Flexterra, the ultimate hydraulically applied blanket. Parented technology creates a Flexible Growth Medium (FGM) that offers better protection on slopes than rolled Erosion Control Blankets (ECB) and Bonded Fiber Matrix (BFM) products—with the speed and cost savings of hydraulic seeding. Plus, it can be combined with other erosion control technologies to accommodate a broad range of conditions. At lower application rates, it can significantly and economically improve the performance of complementary technologies from straw blankets to turf reinforcement mats (TRM).

Flexterra is effective upon application. It requires no cure time to develop intimate soil contact. This engineered medium performs on slopes steeper than 2.5H:1V and remains effective even during sustained rainfall events. It can be applied using all types of mechanically agitated hydraulic seeding equipment over uneven terrain and rough seedbeds.

It Doesn't Just Perform, It Outperforms.

Nothing compares to the performance of Flexterra when evaluated by the most prestigious slope erosion testing laboratories in North America. Flexterra performance has been proven.

- Superior erosion control—0.0001 Cover (C) Factor from the Universal Soil Loss Equation translates to 99.9% effectiveness—or near perfection.
- Effective immediately—no cure time required.
- Fastest turf establishment—1500% water holding capacity delivers more moisture to the seedbed for better germination.
- Less expensive than blankets—less soil preparation is required.

Product Comparison:	Flexterra®	Blankets
• Effective without special site preparation	yes	no
• Can be applied without direct access to site	yes	no
• Eliminates costly, labor-intensive staking	yes	no
• Bonds directly to the soil	yes	no
• Rids site of messy, leftover netting	yes	no

Flexterra® approached perfection (greater than 99% effectiveness) under varying slope, soil, rainfall and testing conditions.

Testing Facility	UWRL ¹	SDSU/SERL ²	TRI ³
Test Method	Lab Protocol ⁴	ASTM D6459 ⁵	ECTC Test Method #2 ⁶
Application Rate	3000 lb/ac	3500 lb/ac	3500 lb/ac
Test Conditions:			
Slope Gradient	2.5H:1V	2H:1V	3H:1V
Soil Type	sandy loam	clay sand	silty sand
Test Duration	1 hr	3 successive—1 hr	1/2 hr
Rainfall Event	5 in/hr	2 in/hr	6 in/hr
Cover or "C" Factor ⁷	0.0003	0.0001	0.0066
% Effectiveness ⁷	99.97%	99.99%	99.34%

1. UWRL – Utah Water Research Laboratory

2. SDSU/SERL – San Diego State University/Soil Erosion Research Laboratory

3. TRI – TRUES Environmental, Inc.

4. Lab procedure developed over 20 years of rainfall simulation testing

5. "Standard Test Method for Determination of Erosion Control (Blanket) (ECB) Performance in Protecting Hillslopes from Rainfall Erosion" Testing simulated three successive 90-year storm events in Los Angeles Basin

6. Erosion Control Technology Council (ECTC) Approved

– Standard Index Test Method for Determination of Rolled Erosion Control Product (RECP) Ability to Protect Soil from Rainplash and Runoff under Bench-Scale Conditions

7. Cover or "C" Factor determined from comparison of treated slope vs. bare slope condition. The C Factor is the component of the Universal Soil Loss Equation that measures the erosion control effectiveness of a product. % Effectiveness = One minus C Factor times 100%

Blanket and BFM Comparisons Fall Flat.

Flexterra® is an effective alternative to erosion control blankets and BFMs. No straw or excelsior blanket alone can match Flexterra's slope protection, even on critical sites. The loft of the FGM matrix captures moisture and creates more air space to enhance seedling emergence. Flexterra absorbs and holds 5 times its weight in water, while standard excelsior blankets retain only twice their weight. The beauty of Flexterra, however, is that it can be used a number of ways. For example, blankets and turf reinforcement mats (TRMs) will perform better when a protective layer of Flexterra is first applied at a reduced rate before installation.

Independent testing proves that Flexterra significantly out-performs excelsior and straw blankets as well as BFMs in preventing erosion. The results speak for themselves:

200 TIMES LESS SOIL LOSS PER ACRE THAN BLANKETS.



Taking Erosion Control to a Whole New Level.

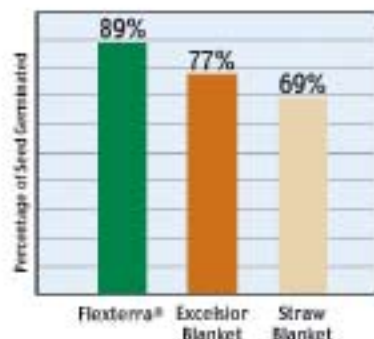
Although BFM technology has its place, Flexterra is an FGM engineered for much tougher site and environmental conditions.

Select FGM if:

- The site requires stronger mechanical and chemical bonds to withstand greater surface flow and/or severe slopes
- Soil needs erosion protection for up to one year
- The site demands immediate erosion protection and you need to eliminate risk from impending weather
- You need the fastest vegetation establishment possible
- You require a high factor of design safety

Select BFM if:

- A chemical bond is strong enough to meet slope severity and length
- The required functional longevity of soil protection is 6 months or less
- The soil is dry and rain is not expected within 24-48 hours after application
- There is a high degree of certainty heavy rains will not follow application
- You require a moderate factor of design safety

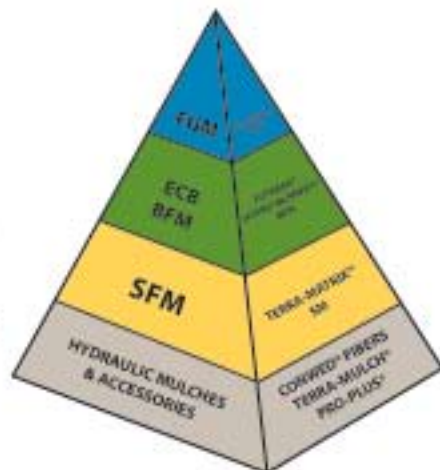


PROMOTES MORE COMPLETE SEED GERMINATION THAN BLANKETS

Flexterra® not only provides better immediate erosion control, independent testing also proves Flexterra provides better long-term control through more reliable and denser vegetation establishment.

Application rate 3,000 lb per acre.
 1" per ft. rise (slopes 2:54) 1/2 slope
 for 1 hr. on sandy loam soil.
 *Extrapolated from Utah research.
 **Competitive BFM product
 *** Single-est blankets

THE PERFORMANCE PYRAMID FOR SLOPE PROTECTION AND EROSION CONTROL



The Right Chemistry Works Every Time.



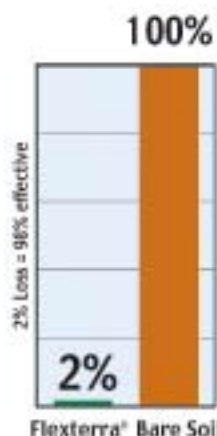
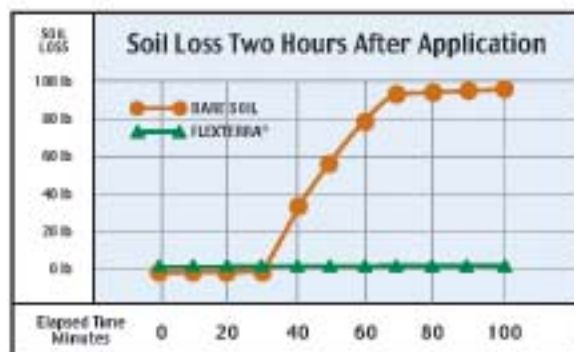
- Wood Fibers
- Interlocking Fibers
- Co-Polymer Gel
- Crosslinking Hydro-colloid Tackifier

Flexterra® uses patented technology combining both chemical and mechanical bonding techniques to lock the engineered medium in place. Crimped man-made fibers, organic fibers and performance-enhancing additives form a lofty, interlocking matrix that creates air space and water-absorbing cavities which improve germination; reduce the impact of raindrop energy and minimize soil loss. Superior chemistry means no cure time, which enables the matrix to handle higher rates of surface flow energy from heavy rains—upon application. Water-resistant tackifiers and flocculants chemically bond the matrix to the soil surface.

NO CURE TIME REQUIRED

Testing proves that Flexterra® is 98% effective two hours after application.

Application rate 3,000 lb per acre.
10-year storm event (2.1 inches)
San Diego State University Soil Erosion
Research Laboratory (SDSU/SERL)



Solves Problems on a Variety of Sites.

Flexterra® has been used on projects ranging from rough ground and steep, rocky slopes to moderate- or steep-graded fill slopes. It is also used in environmentally sensitive wetlands and other wildlife areas not compatible with nettings. It has proven itself in a broad array of applications:

DOT & Highway Projects

Flexterra can be applied quickly to small or large areas with no cutting, trimming or stapling involved. It has received DOT approval on a growing list of states.

Mine Reclamation

Flexterra exceeds the rigid environmental standards that come with abandoned mined land (AML) reclamation projects.

Commercial and Residential Construction

Flexterra doesn't require stakes that pose hazards and doesn't leave netting behind that can interfere with mowing.

Golf Course Construction

Flexterra locks the soil and seed in place, allowing grass to mature into a healthy, dense cover at a fraction of the cost of sod.

Flexible Growth Medium Specification

The Flexible Growth Medium (FGM) shall be a hydraulically applied, flexible erosion control blanket 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 erosion resistant blanket that allows for rapid germination and accelerated plant growth.

Flexible Growth Medium shall be Flexterra® 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.

PROPERTY	TEST METHOD ¹	ENGLISH	SI
Physical			
Mass Per Unit Area	ASTM D-6566	11.5 oz/yd ²	390 g/m ²
Thickness	ASTM D-6575	0.19 in.	4.8 mm
% Ground Cover	ASTM D-6567	99%	99%
Water Holding Capacity	Profile Products ²	1500%	1500%
Flexural Rigidity (wet)	ASTM D-6575	0.138 oz-in	10,000 mg-cm
Cure Time	Observed	< 2 hr	< 2 hr
Color (fugitive dye)	Observed	Green	Green
Endurance			
Functional Longevity	Observed	Up to 1 yr.	Up to 1 yr
Performance			
Cover Factor ³ (6 in/hr event)	ECTC Test Method #1	0.0066	0.0066
% Effectiveness ⁴	ECTC Test Method #2	99.34%	99.34%
Shear Stress	ECTC Test Method #3	1 lb/B ²	48 Pa
Vegetation Establishment	ECTC Test Method #4	800%	800%

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. 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%.

INSTALLATION

Strictly comply with manufacturer's installation instructions and recommendations. Use approved hydro-spraying machines with fan-type nozzle (50-degree tip). To achieve optimum soil surface coverage apply FGM from opposing directions to soil surface.

Erosion Control and Revegetation:

- Step One: Apply seed, fertilizer and other soil amendments with small amount of Flexterra for visual metering.
- Step Two: Mix 50 lb of FGM per 125 gallons (23 kg/475 liters) of water; confirm loading rates with equipment manufacturer.

SLOPE GRADIENT 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

Consult comprehensive CSI formatted specifications for additional details.

PACKAGING

Bags: Net Weight - 50 lb, UV resistant plastic film.

Pallets: Weather-proof, stretch-wrapped with UV resistant pallet cover, 40 bags/pallet, 1 ton/pallet.

Your Trusted Partner in Soil Solutions™

Profile Products is the world's largest producer of hydraulically applied mulches, hydraulic mulch additives, erosion control blankets and a leader in erosion control and revegetation science. Many of today's industry standards were innovations introduced by Profile. Our leadership continues through aggressive research and development, active support of trade associations, and education designed to advance the industry's effectiveness and professionalism.



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For technical information call 1-866-325-6262. For distributor location and customer service call 1-800-366-1180.

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Flexterra is a trademark of PROFILE Products LLC. U.S. Patent #'s: 5,942,020; 5,779,782; 5,741,832

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