EcoSolutions

PROVEN THE WORLD OVER

EcoFlex™ HP

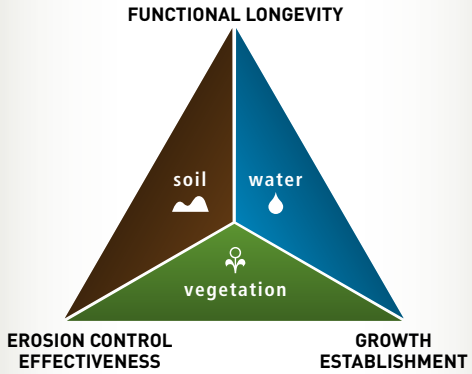
High Performance-Flexible Growth Medium™

World-Class Erosion Control and Revegetation

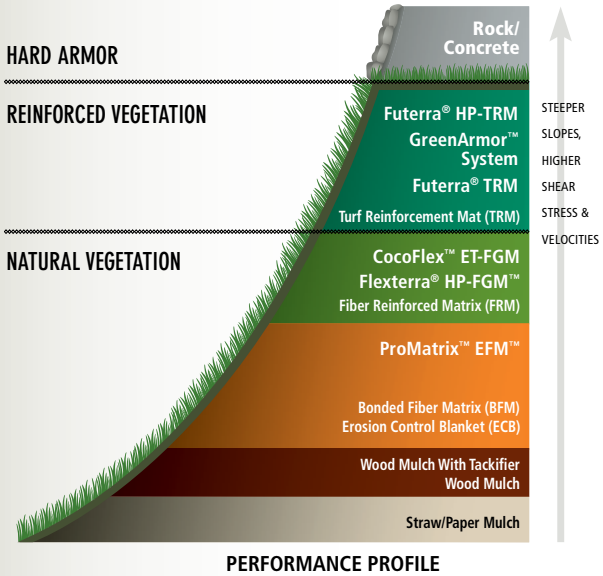
EcoFlex™ High Performance-Flexible Growth Medium™

(HP-FGM™) provides superior erosion control immediately upon application and enhances seed germination. This technologically advanced matrix retains more than 99% of soil to reduce turbidity of runoff for up to 18 months. It also delivers 800% better initial germination. Additionally, EcoFlex HP-FGM has proven to be a responsible choice from an environmental perspective:

- 100% recycled wood fibers
- Phyto-sanitized wood fibers eliminate weed seeds and pathogens
- 100% biodegradable man-made fibers
- Naturally derived biopolymers
- Non-toxic components
- No nettings, threads or staples to endanger wildlife



Profile's Green Design Triangle integrates three primary natural variables with three pillars of product performance. **The result:** EcoFlex HP-FGM delivers a nearly perfect balance between these factors to create the highest performing hydraulically applied mulch on the market today.



Green Design Engineering™ delivers outstanding erosion control across a spectrum of EcoSolutions products. By ensuring more successful soil stabilization through faster and denser vegetation establishment, Green Design Engineering also helps you realize the highest return on investment:

- Affordably achieve and maintain environmental compliance
- Meet current and proposed EPA protocols to ensure safety of aquatic and terrestrial life
- Eliminate callbacks and "do-overs" due to insufficient erosion protection or "grow in"
- Contribute to LEED credits

PROVEN TO SURPASS

When applied on very steep slopes and critical sites worldwide, EcoFlex™ HP-FGM™ has proven to surpass *all* hydraulically applied mulch products, with an installed cost lower than rolled erosion control blankets.

HIGHWAY PROJECTS: *Widely regarded as the preferred solution on sites with moderate to extreme slopes.*

GOLF COURSE CONSTRUCTION: *Especially effective in adding stability to bunker faces, and quickly establishing vegetation along high-discharge waterways.*

COMMERCIAL/RESIDENTIAL DEVELOPMENT: *Provides outstanding erosion control and vegetation establishment where extreme slope conditions exist.*

OIL AND GAS RESTORATION: *Provides effective slope management with the best possible erosion control and dust mitigation for up to 18 months.*

FIRE RECLAMATION AND MINE: *Trusted to deliver immediate and effective soil stabilization on sites where erosion control is crucial.*

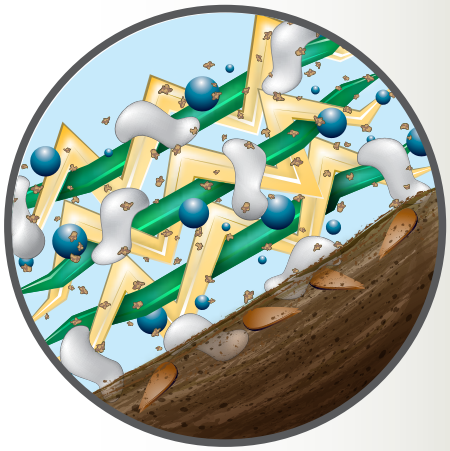
WATERWAYS: *The ideal solution to stabilize banks where heavy rain is expected, and resolve other environmentally sensitive challenges.*

ECOFLEX™ HP TECHNOLOGY

A World of Difference

EcoFlex™ HP-FGM™ combines both chemical and mechanical bonding techniques to lock the engineered medium in place and promote accelerated germination with minimal soil loss. Here's why this technology works so well:

- *100% recycled* Thermally Refined® wood fibers produce the highest yield and coverage per unit weight and are phyto-sanitized, eliminating weed seeds and pathogens
- *100% biodegradable* interlocking man-made fibers increase mechanical bonding of the matrix to provide immediate performance upon installation
- *100% non-toxic* biopolymers and water absorbents enhance erosion control resistance and growth establishment
- Revolutionary Micro-Pore particles optimize water and nutrient retention



	HP-FGM™
Erosion Control Effectiveness	≥ 99%
Growth Establishment (% Improvement)	800%
Longevity (Months)	≤ 18

Thermally Refined Wood Fibers Deliver World-Leading Advantages

Fibers magnified 45 times by independent lab specializing in fiber analysis.

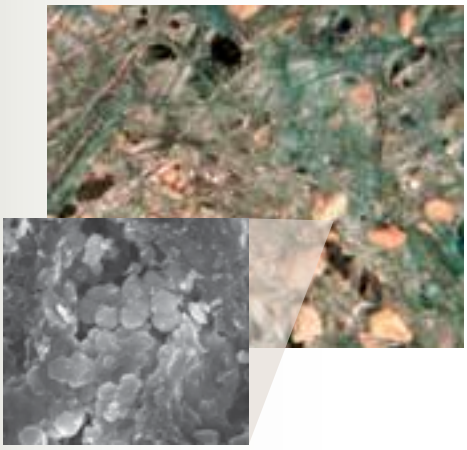
100% recycled wood chips are Thermally Refined in a process that creates fine, long and highly absorbent fibers which are the source for these leading advantages:

- Yield and coverage
- Water-holding capacity
- Growth establishment
- Erosion control effectiveness

Inferior wood fiber magnified 45 times.

Competitive refining technologies create inferior fibers that deliver less yield, coverage and water-holding capacity. Unlike competitive mulches, Thermally Refined wood fibers also maintain their water-holding ability, enabling them to enhance germination and promote more rapid growth establishment.

MICRO-PORE TECHNOLOGY:
Micro-Pore particles increase wet bond strength of the flexible growth medium, yielding increased resistance to raindrop impact and sheet flow.

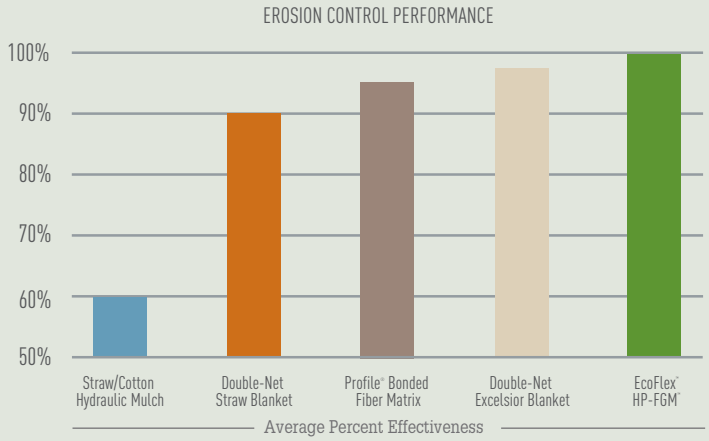


Magnified 500 times, these particles trap and hold moisture and nutrients, reduce soil surface evaporation and improve oxygen exchange to promote faster, more uniform vegetation establishment.

Proven On-Site Advantages Around the Globe

Erosion Control Performance

Even on slopes as severe as 0.25H:1V, EcoFlex™ HP-FGM™ has demonstrated nearly perfect erosion control performance. It immediately bonds to the soil surface, and has proven to be greater than 99% effective upon curing. In addition to minimizing soil loss, the turbidity (NTU) of runoff is greatly reduced. In large scale testing, EcoFlex HP-FGM reduced effluent turbidities of sandy loam soils to less than 100 NTU.



Soil Loss Prevention

Straw/Cotton Hydraulic Mulch
75,520 lb soil loss/ac
(84,647 kg soil loss/ha)

Double-Net Straw Blanket
18,025 lb soil loss/ac
(20,203 kg soil loss/ha)

Bonded Fiber Matrix
8,935 lb soil loss/ac
(10,015 kg soil loss/ha)

Double-Net Excelsior Blanket
6,050 lb soil loss/ac
(6,781 kg soil loss/ha)

EcoFlex™ HP-FGM™
173 lb soil loss/ac
(194 kg soil loss/ha)

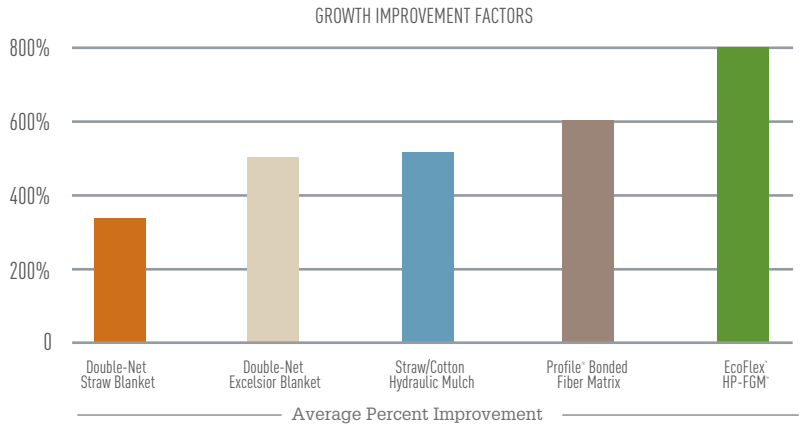
Testing conducted at the Utah Water Research Laboratory at a rate of 5 inches of rain per hour on a 2.5H:1V slope with a sandy loam soil.

Soil Preparation vs. Rolled Blankets

With EcoFlex HP-FGM, fine grading and extensive soil preparation are unnecessary, which allows you to apply the product for immediate protection and superior performance at reduced overall costs. EcoFlex HP-FGM can also be applied quickly—even under wet conditions—using less labor and minimizing safety and access concerns. Ask yourself, *"Why incur the cost of smoothing slopes for erosion control blankets that are prone to bridging and voiding?"*

Vegetation Establishment

Establishing vegetation quickly and completely is the key to long-term erosion control. The loft of the HP-FGM™ matrix creates air space, which not only captures more moisture to improve seedling emergence, it also improves the oxygen exchange necessary to promote robust plant development. Patented Micro-Pore Technology gives the matrix additional water and nutrient retention properties, resulting in superior vegetation establishment as documented in independent testing.

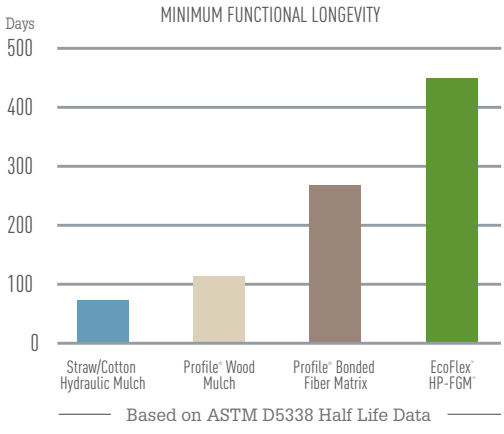


Functional Longevity

EcoFlex™ HP-FGM™ is the first erosion control product to offer documented functional longevity of up to 18 months based upon ASTM D5338 protocol. These test results illustrate that EcoFlex HP-FGM is proven to last longer than other hydraulically applied erosion control products.

LONG-LASTING ECOFLEX HP-FGM IS DESIGNED TO:

- **Protect bare soil when seed germination is not possible**
  - With the arrival of more optimal growing conditions, EcoFlex HP-FGM assures the seed and nutrients are still in place, and in an environment conducive to germination and emergence.
- **Ensure sustainability of plants**
  - Emerging seedlings need moisture and nutrients near the surface. The exceptional absorptive properties of EcoFlex HP-FGM nurture vegetation to better withstand environmental stress.
- **Accommodate a broad range of vegetative species**
  - Seed from native and forage grasses and other types of vegetation have different germination and establishment requirements. EcoFlex HP-FGM protects and helps to cultivate even the slowest developing species.



Sustainability and the Environment

Not only does EcoFlex™ HP-FGM™ effectively contribute to sustainable vegetation, it enhances the natural environment as well:

- 100% biodegradable as verified by ASTM Test Method D5338
- Uses 100% recycled (verified via ISO 14021), phyto-sanitized and sterilized wood fibers which are heated to 380° F (193° C) during Thermally Refined® processing, making them weed and pathogen free
- Non-toxic to aquatic and terrestrial life forms as verified via EPA 2021.0 protocol
- Contains no excessive heavy metals as verified by US EPA Standard Methods 18th Edition
- Exhibits effluent runoff turbidity values less than 100 NTU, well below proposed EPA Effluent Limitation Guidelines (ELGs)
- No nets or threads to endanger wildlife and disrupt maintenance activities, a common hazard with many rolled erosion control blankets

SAFETY IN NUMBERS

ECOFLEX HP-FGM

ENVIRONMENTAL PROPERTIES	TEST METHOD	UNITS	TYPICAL VALUE
Ecotoxicity	EPA 2021.0	%	96-hr LC50 > 100%
Effluent Turbidity	Large scale rainfall testing	NTU	100
Biodegradability	ASTM D5338	%	100

Installation Instructions

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 HP-FGM™ from opposing directions to soil surface.

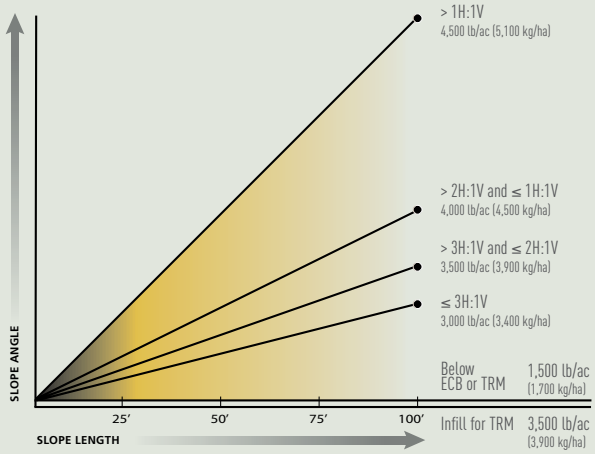
STEP ONE

Apply seed, fertilizer and other soil amendments with small amount of EcoFlex HP-FGM for visual metering.

STEP TWO

Mix 50 lb (22.7 kg) of HP-FGM per 125 gal (475 L) of water; confirm loading rates with equipment manufacturer.

APPLICATION RATES BY SLOPE GRADIENT



Soil Testing: A Critical First Step

The quality of the soil is essential to any project's success. To ensure you achieve optimum results from applying EcoFlex HP-FGM, you need a soil analysis. To assist you with that, EcoSolutions offers a free soil test. To get yours, visit **www.profileevs.com/free-soil-test**.

ProPlus® Additives for Improved Performance

With a soil test, you will know if additives are needed to modify the soil's chemistry to create the best environment for rapid establishment and vegetative growth. ProPlus accessories are the most comprehensive line of hydraulic mulch additives to improve the soil's composition, and assure effective on-site results.

ProPlus®

For more detailed information, consult with your EcoSolutions representative, or visit **www.profile-eco.com**.

EcoSolutions

PROVEN THE WORLD OVER

Two trusted names, one industry-leading combination.

The bag says EcoFlex™ HP. What's inside was developed and manufactured by Profile Products, the world's largest manufacturer of hydraulic mulches. Profile® is widely recognized for developing innovative product solutions that deliver superior erosion control through faster and more complete vegetative establishment.

GREEN DESIGN ENGINEERING™

Green Design Engineering™ is a holistic approach that combines agronomic and engineering expertise with advanced technologies to provide cost-effective and earth-friendly solutions. Profile strives to deliver Green Design Engineering across our team of consulting professionals, innovative products and educational resources.

PS³ PROFILE SOIL SOLUTIONS SOFTWARE

PS³ is a free, comprehensive 24/7 online resource you can use to design a project and select the right products that address both the physical and agronomic needs of your site. It will help you develop holistic, sustainable solutions for cost-effective erosion control, vegetation establishment and subsequent reductions in sediment and other pollutants from leaving disturbed sites. Because good plans start with the soil, PS³ offers free soil testing to ensure this critical step is considered. To access the site, design your project and take advantage of a free soil analysis, visit **www.profileps3.com**.

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