Rainier Fiber™ Bonded Fiber Matrix

DESCRIPTION

Rainier Fiber™ Bonded Fiber Matrix is manufactured using clean, western softwood chips and long-strand, 100% virgin wood fibers. A high-strength, non-toxic, hydrocolloid-based, cross-linked organic tackifier is blended into the fiber to provide superior holding power. No synthetic or plastic fibers—materials that are not naturally biodegradable—are added to the product. This ensures that the matrix remains completely natural and environmentally friendly.

When applied hydraulically, the system sprays on like mulch and forms a continuous blanket that adheres tightly to the soil surface. Once dry, the matrix creates a porous, erosion-resistant layer that protects the soil while maintaining breathability and moisture retention. It maintains its structural integrity through rainfall and rewetting, ensuring long-lasting erosion control. As the fibers dry, they twist and interlock with each other and the underlying soil, and the integrated tackifier significantly enhances the soil-binding capability—providing stronger erosion protection than wood mulch alone.

Rainier Fiber™ Bonded Fiber Matrix is completely biodegradable and non-toxic to animals, aquatic organisms, fish, and plant life, making it safe for use in sensitive environments.

ADVANTAGES

- No synthetic or plastic fibers are added, ensuring full biodegradability and environmental safety.
- Enhanced bonding strength between fibers and soil significantly improves erosion protection.
- The matrix retains its form and performance even after multiple rainfall events.
- Conforms closely to all surface contours, preventing tenting and rilling.
- Contains no seed germination or plant growth inhibiting substances.
- High-temperature steam processing at 177°C (350°F) and thermo-mechanical refining sterilize the fiber.
- Guaranteed to be free of viable noxious weed seeds or other unwanted plant species.
- The tackifier hydrates quickly in the slurry, improving application efficiency.
- The tackifier is evenly blended into the fiber, eliminating the need for separate mixing—everything is included in one convenient bag.

PRODUCT FEATURES

- Manufactured from selected, fresh-cut, clean 100% whole wood chips.
- Fibers remain in uniform suspension and blend thoroughly with seed and fertilizer.
- Mixes quickly and easily into a consistent slurry.
- Forms a durable erosion control mat once applied.
- Creates a favorable micro-climate to promote rapid seed germination.
- Pumps smoothly and reliably through hydroseeding equipment.
- Contains no substances that inhibit germination or plant growth.
- Fully decomposes after vegetation has been established, contributing organic matter to the soil.

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PRODUCT SPECIFICATIONS

Rainier Fiber™ Bonded Fiber Matrix is manufactured to precise fiber size specifications in a heat-controlled environment for optimal job-site performance. Virgin softwood chips are softened with high-temperature steam (177°C / 350°F) and refined through a thermo-mechanical process into long, soft, woolly fibers that naturally intertwine to form a durable, protective soil blanket. The product contains no bark, sawdust, paper, or synthetic additives, and is entirely free of lead paint, inks, varnish, petroleum products, chlorine bleach, and seed germination inhibitors—delivering a clean, effective solution.

Composition	**Test Method**		**Tested Value**
Thermo-Mechanical Refined Virgin Wood Fiber		(total weight basis)	90%
Proprietary Cross-Linked Tackifier		(total weight basis)	10%
Crimped Wood Fiber		(total weight basis)	Not Required
Micro-Pore Granules		(total weight basis)	Not Required
Physical Properties	**Test Method**		**Tested Value**
Moisture Content	ASTM D 2974 / CA-Test 226	(total weight basis)	12.0% ± 3.0%
Organic Matter	ASTM D 586 AASHTO T-267	(oven dried weight basis)	97.0% min
Ash Content	AASHTO T267 / TAPPI T-413	(oven dried weight basis)	3.0%
pH @ 3% Concentration	SW846 9045D		4.5±0.5
Water Holding Capacity (min)	ASTM D 7367*		1300%
Color	Observed		Green or Blue
Fiber Length	ASTM D 7560	25%=10mm (3/8 inch)	
Sieve Retention	ASTM D 7560	50% retained on 25 mesh (710 µm) sieve	
Mass / Unit Area	ASTM D 6566 (mod) Large Scale**	g/m2 (oz/yd2)	388 (11.45)
Thickness	ASTM D 6525 (mod) Large Scale**	mm (in)	> 5.7 (0.22)
Ground Cover	ASTM D 6567 (mod) Large Scale**		> 99%
Performance Properties	**Test Method**		**Tested Value**
Percent Effectiveness	ASTM D 6459 (mod)		> 99.7%
Vegetation Enhancement	ASTM D 7322		> 599%
Functional Longevity	Observed***		> 12 Months
Erosion Control Technology Council HECP Classification			Long Term
Maximum Slope Application	Observed		≤ 1.0H : 1.0V
Cover Factor	ASTM D 6459 - Large Scale**		< 0.01
Environmental Properties	**Test Method**	**Citation Method / Notes**	**Results**
Ecotoxicity	EPA 2019.0	96-hr LC50 > 100%	Pass / NOEC
Acute Toxicity	EPA-821-R-02-012	96-hr LC50 > 100%	Pass / NOEC
Biodegradability	ASTM D 5338		Pass
Heavy Metals	EPA 6020A	ND	Pass
Solvents	EPA 6020A	ND	Pass
Boron Content	EPA 6020A	< 50 ppm	Pass
Elemental Impurity Limits	EPA 1668	> 0.003 ppm	Pass
USDA BioPreferred	ASTM D6866	BioBased Content	***Pending***
Recommended Rates	**Pounds Per Acre**	**Kilogram Per Hectare**	
3.0H : 1.0V to 2.5H : 1.0V	2,500 to 3,000	2,800 to 3,360	
2.5H : 1.0V to 2.0H : 1.0V	3,000 to 3,500	3,370 to 3,923	
≤ 1.0H : 1.0V	≤ 4,000	≤ 4,480	
Packaging	**Dimensions**	**Quantity**	**Pallet Weight**
50 Pound Bale	10"x19"x29" Bale/48”x48”x102” Pallet	40 Bales Per Pallet	EST >2,100 lbs.

* Water Holding Capacity results are the average of two most recent tests ** Large scale testing conducted at TRI Environmental, Inc and has been submitted to AASHTO's NTPEP in 2014.
*** Functional Longevity is the estimated time period, based upon environmental & jobsite factors. For specific testing information please contact Tony Kopp for consultation at 509-368-0700.

Apply Rainier Fiber™ Bonded Fiber Matrix (BFM) to form a uniform mat over the soil surface. For application rates exceeding 2,500 lbs/acre (2,800 kg/ha), use a two-pass method, allowing time for partial drying between coats. Spray from opposing directions to ensure full coverage and prevent light areas or shadowing behind ridges, rocks, and depressions. For best results, apply BFM well in advance of rainfall to allow sufficient drying time and mat formation.

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