Rainier Supreme™
Fiber Reinforced Matrix (FRM)
Superior Erosion Protection

DESCRIPTION

Rainier Supreme™ FRM consists of specially processed, extra-long strand, virgin wood fibers along with a high-strength, non-toxic, hydrocolloid based cross-linked organic tackifier with a reinforcing tackifier additive combined to create a mechanically reinforced fiber. This combination gives superior erosion protection without the addition of man-made synthetic plastic fibers which are not naturally biodegradable.

The system sprays on like mulch and forms a blanket that adheres to the soil surface immediately upon application. When dry, the blanket is porous, erosion resistant and protects the soil surface. The blanket retains its integrity and soil protection despite re-wetting for more than eighteen months. The extra-long, woolly wood fibers form tent-like pockets which aids germination and plant growth. When applied over the soil surface the wood fibers twist and interlock with each other and the soil as they dry.

Rainier Supreme™ FRM is 100% naturally biodegradable, has no plastic fibers added, and is non-toxic to animal, aquatic organisms, fish or plant life.

ADVANTAGES

- No man-made synthetic plastic fiber added. Wood fiber is 100% biodegradable.
- Greater than 99% effectiveness in controlling soil loss.
- Extra long wood fibers make a stronger mat.
- Plant growth increase greater than 760% versus bare soil.
- Mat blanket retains integrity after repeated rains.
- Conforms to all surface contours. Eliminates tenting and rilling.
- Pre-mixed fiber blended with cross-linked organic tackifier disperses quickly in slurry for fast hydration.
- High temperature 177°C (350°F) steam and pressurized, thermo-mechanical refining produces long fibers.
- No viable noxious or other plant seed in the fiber. All seeds are sterilized.
- Tackifier additive is homogeneously mixed with the fiber creating a mechanically reinforcing fiber (FRM).

Rainier Supreme™ FRM is fast to load in hydroseeding equipment from easy-to-handle plastic bags. The fibers make a homogeneous slurry of water, seed and fertilizer. The fibers remain in suspension during agitation and pumping, and the slurry does not dewater when doing hose work. The color allows the operator to apply an even application of material over the soil surface. The colorant added to the fiber during manufacture is non-toxic to animal, aquatic organisms, fish, or plant life.

PRODUCT FEATURES

- Made from specially selected, clean, wood chips.
- Fiber stays in uniform suspension and blends with seed and fertilizer.
- Goes into slurry quickly.
- Provides favorable micro-climate for fast seed germination.
- Pumps easy in hydromulching machines.

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- Has no germination or growth inhibiting factors.
- Wood fibers decompose after plants have been established.

PRODUCT SPECIFICATIONS

Rainier Supreme™ is manufactured to specific fiber sizes in a controlled environment to provide best job-site performance. Specially selected wood chips are softened by high temperature 177°C (350°F) steam, and the pressurized thermo-mechanical refining process produces extra long, soft, woolly fibers. The fibers have physical features that tend to intertwine with each other, thus forming a more protective blanket. The fibers are totally free from lead paint, printing ink, varnish, petroleum products, seed germination inhibitors or chlorine.

Composition	**Test Method**	**Notes**	**Tested Value**
Thermo-mechanical refined virgin wood fiber		(total weight basis)	90%
Proprietary cross-linked tackifier & additive		(total weight basis)	10% min
Crimped wood fiber	Additive used in place	(total weight basis)	Not required
Micro-Pore Granules	Additive used in place	(total weight basis)	Not required
Physical Properties	**Test Method**	**Notes**	**Tested Value**
Moisture Content	ASTM D 2974 / CA-Test 226	(total weight basis)	12.0% +/- 3.0%
Organic Matter	ASTM D 2974 / AASHTO T-267	(oven dried weight basis)	97.0% min
Ash Content	AASHTO T267 / TAPPI T-413	(oven dried weight basis)	3%
pH @ 3% Concentration	SW846-9045D		5.5±0.5
Water Holding Capacity (min)	ASTM D 7367	CA-DOT-TL-2176-1-76-36	> 1600%
Color	Observed		Green
Fiber Length	ASTM D 7560	25%=10mm (3/8 inch)	
Sieve Retention	ASTM D 7560	50% retained on 25 mesh (710 µm) sieve	
Performance Properties	**Test Method**	**Notes**	**Tested Value**
Percent Effectiveness	ASTM D 6459 (mod)		> 99.9%
Vegetation Enhancement	ASTM D 7322		> 635%
Functional Longevity	Observed		> 18 Months
Erosion Control Technology Council HECP Classification			Long Term
Maximum Slope Application	Observed		≤ 0.25H : 1.0V
Cover Factor	ASTM D 6459 – Large Scale**	May 2024	0.01
R Factor	ASTM D 6459 – Large Scale**	May 2024	<162
Cure Time	Observed		24 to 48 hours
Environmental Properties	**Test Method**	**Method/Notes**	**Results**
Ecotoxicity	EPA 2019.0 / EPA 2021.0	96-hr LC50 > 100%	Pass
Acute Toxicity	EPA-821-R-02-012	96-hr LC50 > 100%	Pass
Heavy Metals	EPA 6020A	ND	Pass
Biodegradability	ASTM D 5338		Pass
Solvents	EPA 6020A	ND	Pass
Boron Content	EPA 6020A	< 50 ppm	Pass
Elemental Impurity Limits	EPA 1668		
USDA BioPreferred	ASTM D6866	BioBased Content	***Pending***
Recommended Rates	**Pounds Per Acre**	**Kilogram Per Hectare**	
≤ 3.0H : 1.0V	2,500	2,800	
2.5H : 1.0V	3,000	3,370	
2.0H : 1.0V	3,500	3,930	
≥ 1.0H : 1.0V	≥ 4,000	4,490	
Packaging	**Dimensions**	**Quantity**	**Pallet Weight**
50 Pound Bale	10"x19"x29" Bale/48”x48”x102” Pallet	40 Bales Per Pallet	Est. > 2,100 lbs

APPLICATION RATES & PROCESS

Recommended Rates are for typical field conditions where the slope has been stabilized and prepared for seeding. Apply the fiber to make a uniform mat. If more than 2,500 lbs/acre (2,800 kg/ha) is applied the spraying should be done in two applications. Allow enough drying time between applications so some dry spots are shown on the surface of the fiber. Spray from two directions to avoid light coverage, or shadowing, on the back side of ridges and depressions. Application works best when made in advance of rainfall to allow a short drying time.

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