



HydroStraw® HE All In 1™ Bonded Fiber Matrix (BFM) Hydraulic Growth Medium (HGM)



Solutions for your Environment™

Description

HydroStraw® High-Efficiency (HE) All in 1™ Bonded Fiber Matrix (BFM) is a biodegradable BFM designed to address the biological, chemical and physical requirements for stabilizing and restoring vegetation on disturbed soil sites, as well as controlling erosion during vegetation establishment. All in 1 is made in the United States, plastic-free, and contains renewable Heat & Mechanically Treated™ (HMT™) wheat straw fibers, which are environmentally safe and produced from annually renewable materials. It is also composed of cross-linked high-viscosity colloidal polysaccharides and micronized fertilizers. All in 1 contains no weed seeds or plastic components and upon application forms an intimate bond with the soil surface to create a porous, absorbent and flexible erosion resistant blanket that allows for rapid germination and accelerated plant growth.

Recommended Applications

- Biotic soil matrix designed for low organic/nutrient sites
- Contains micronized fertilizer
- Biological inoculant food system
- Soil building attributes to rejuvenate the soil
- Designed for disturbed sites
- Erosion prevention for steep slopes & critical sites

Technical Data

Physical Properties	Test Method	Units	Tested Value
Topsoil & Engineered Soil Amendment	ASTM D5268-19	n/a	Compliant
Organic Material	ASTM D586	%	≥ 91
Mass/Unit Area	ASTM D6566 ¹	g/m ² (oz/yd ²)	≥ 604(17.78)
Ground Cover	ASTM D6567 ¹	%	≥ 99
Water Holding Capacity	ASTM D7367	%	≥ 900
pH	ASTM D1293	n/a	7.0 ± 1.0
C:N Ratio	ASTM E1508 & EPA Method 1687	n/a	25:1± 10
Material Color	Observed	n/a	Brown
Weed Free	Purity Analysis ²	Viable Seed	None Detected

Performance Properties	Test Method	Units	Tested Value
Cover Factor ³	ASTM D8298 - Type 1	n/a	≤ 0.1
Percent Effectiveness ⁴	ASTM D8298 - Type 1	%	≥ 90%
Vegetation Establishment	ASTM D7322	%	≥ 400
Functional Longevity ⁵	ASTM D5338	Months	≤12
Cure Time	Observed	Hours	12-24

Environmental Properties	Test Method	Units	Tested Value
Ecotoxicity ⁶	EPA 2021.0	%	Non-Toxic
Biodegradability	ASTM D5338	n/a	Yes
USDA Certified Biobased Content	ASTM D6866	%	98
EPA 503 Metals	EPA 503	Pass/Fail	Pass
Pathogen Reduction	40 CFR 503 Class A Compost	Pass/Fail	Pass
Elemental Impurity Limits	ASTM D8082	Pass/Fail	Pass

Product Composition	Typical Value
Heat & Mechanically Treated™ (HMT™) Wheat Straw ⁷	70%
Micronized Natural Fertilizers/ Soil Amendments	15%
Refined Pulp Fibers	7.5%
Wetting Agents—including cross-linked high-viscosity colloidal polysaccharides	7.5%
Moisture Content ⁸	10.0%

1. ASTM test methods developed for Rolled Erosion Control Products that have been modified to accommodate Hydraulic Erosion Control Products. 2. HMT™ Wheat Straw is steamed to 212° Fahrenheit (100° Celsius) and samples are analyzed by an accredited International Seed Testing Association (ISTA) laboratory. 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%. 5. Functional Longevity is estimated time period, based upon field observations, that a material can be anticipated to provide erosion control and agronomic benefits as influenced by composition, as well as site-specific conditions, including, but not limited to – temperature, moisture, light conditions, soils, biological activity, vegetative establishment and other environmental factors. 6. 48-hr LC50 refers to percent concentration of a substance in water when 50% percent mortality of an organism is reached. 50% mortality of tested species (*Daphnia magna*) could not be achieved when subjected to 100% effluent concentration proving material to be acutely non-toxic. 7. Heat and Mechanically Treated processing eliminates weed seeds and insects while providing a uniform fiber. 8. Moisture is an inherent property of fiber mulch products. This value has been excluded from the overall product composition.



Made in USA

Packaging Data

Properties	Test Method	Units	Nominal Value
Bag Weight	Scale	kg (lb)	22.7 (50)
Bags per Pallet	Observed	#	40

UV and weather-resistant plastic bags. Pallets are weather-proof stretch wrapped with UV resistant pallet cover.

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