



A hydraulically applied **BIOTIC SOIL AMENDMENT**

BIG Environmental Solutions LLC certifies that PermaMatrix® contains the following properties and characteristics

PermaMatrix® Description Sheet

Distributed by: Rocky Mountain Bio Products – A Division of Bowman Construction Supply
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Description-Where to use
PermaMatrix® Biotic Soil Amendment is an ideal alternative to traditional compost blankets. It is used to re-introduce depleted organics, missing micro-organisms, mycorrhizal fungi, and organic carbon to highly disturbed and nutritionally deficient soils.
PermaMatrix® should be used on depleted soils to establish biological function that is required to support seed & vegetated solutions.

Physical Characteristics	
Toxicity	Non-Toxic
Applied Color	Dark Brown-Black
Surface Tension	Material will disperse and suspend evenly when agitated in water
PH	6.6 (+/- .1)
C:N Ratio	30:1(+/- .SC)

Composition - Perma Matrix® combines carbon-based fiber, clean organics rich in humic and fulvic acids, micro-organisms, beneficial mycorrhizae fungi, water holding organic polymers, and biochar to create the optimal growing medium for seed and existing vegetation.

PermaMatrix® initiates the redevelopment of a permanent and healthy growing rhizosphere by combining the essential elements that make up the life supporting organic portion of all topsoil. Applied to nutritionally deficient soils, its microbiological elements enhance seed germination and re-establish vigorous vegetation on soils disturbed by natural or man-made events.

Key Component - Biochar
 Biochar is defined as biological charcoal that is used for agricultural purposes. It is created using a pyrolysis process, heating biomass in a low oxygen environment. Biochar helps retain moisture and nutrients to assist plants through periods of drought. Most importantly, it replenishes organic carbon in exhausted or marginal soils and fosters the growth of soil microbes essential for nutrient absorption, particularly mycorrhizal fungi.
 Biochar has many agricultural benefits including increasing crop yields, sometimes substantially if the soil is in poor condition. It helps to prevent fertilizer runoff and leaching, allows for decreased reliance on synthetic fertilizers and diminishes agricultural pollution to the surrounding environment.

WARRANTY
 BIG Environmental Services, LLC warrants that its products are free from defects and will perform as stated in this document. BIG Environmental Services, LLC will not warrant that the product will perform under unlimited circumstances that are caused by variables such as the soil surface condition, installation methods, and/or weather conditions.

Specifications - PermaMatrix® is applied with a hydro-seeder at a rate of 4,000 pounds per acre, or 100 pounds per 1,000 square feet on sites less than an acre. This rate provides the necessary materials to establish seed and sustain vegetative cover. On erosion prone sites, additional protective treatments are suggested.
PermaMatrix® to water ratios are 130 pounds +/- per 100 gallons of water. The slurry shall be free flowing in the hydro-seeder with a high concentration of material so there is no splashing of water and no caking of product. Specified application rates for seed and fertilizer are determined by the total amount of **PermaMatrix®** applied per tank-load and under-lying site conditions. See load chart to determine **PermaMatrix® load** rates for different machine tank capacities. (Square footage coverage per tank- load can be increased by adding more **PermaMatrix®** to meet a machine's capacity). Use product only with hydro-seeders that are mechanical agitation machines.

PermaMatrix®	Application Rate
Per Acre (1 ac or more)	4,000 lbs.
Per 1,000 Sq. Ft. (under 1 ac)	100 lbs.

