

Bonded Fiber Matrix (BFM)

Plan Symbol



Description

A Bonded Fiber Matrix (BFM) is a continuous layer of non-toxic, degradable, elongated fiber materials held together by water insoluble bonding agents. BFM eliminates direct raindrop impact on soil, allows no gaps between the product and the soil, and has a high water-holding capacity. BFMs do not form a water-insensitive crust that can inhibit plant growth. BFMs are completely photo- and biodegradable.

When and Where to Use It

BFMs are applicable when:

- Enhancement of temporary seeding operations to reduce erosion and expedite seed germination
- A high performance mulch is required for permanent seeding
- Seeding application will take place on highly erodible soil or slopes
- Slopes up to 1H:1V
- The required functional longevity of soil protection is 6 months or less
- The soil is dry and rain is not expected within 48 hours after application
- There is a high degree of certainty that heavy rains will not follow application.

BFMs are **not** applicable as Type A Temporary Erosion Control Blankets, channel liners or for areas receiving concentrated flow. Applicable BFM may be selected from the SCDHEC approved products list.

Installation

All BFM components are pre-packaged by the Manufacturer to assure material performance. Under no circumstances is field mixing of materials, additives or components accepted. Examine substrates and conditions where materials will be applied. Do not proceed with installation until unsatisfactory conditions are corrected. Apply BFM to geotechnically stable slopes that have been designed and built to divert runoff water away from the face of the slope, eliminating damage to the slope face caused by the surface flow from above the slope.

Install BFM with a contractor who is certified and trained by the Manufacturer in the proper procedures for mixing and applying the BFM. Strictly comply with the Manufacturer's mixing recommendations and installation instructions. Use approved hydraulic seeding/mulching machines with fan-type nozzle (50-degree tip) for BFM applications. Apply BFM from opposing directions to the soil surface in successive layers, reducing the "shadow effect" to achieve maximum coverage of all exposed soil. Do not apply the BFM immediately before, during or after rainfall. Allow the BFM a minimum of 24 hours to dry after installation. Do not exceed maximum slope length of 100 feet when slope gradients are steeper than 4H:1V. Install BFMs at a general application rate of 3500 pounds per acre.

Inspection and Maintenance

- Check areas protected by BFM for dislocation or failure every 7 calendar days and within 24-hours after each storm that produces ½-inch or more of rain.
- Reapply BFM to disturbed areas that require continued erosion control.
- Maintain equipment to provide uniform application rates.

- Rinse all BFM mixing and application equipment thoroughly with water to avoid formation of residues and discharge rinse water appropriately.
- Degradation of BFM is expected to occur as a result of mechanical degradation, chemical and biological hydrolysis, sunlight, salt and temperature. Reapply BFM in accordance with the Manufacturer’s instructions. Reapplication is not required unless BFM treated soils are disturbed or turbidity or water quality shows the need for an additional application.



BFM Application

Preventive Measures and Troubleshooting Guide

Field Condition	Common Solutions
Slope areas have eroded due to concentrated flows.	<p>Make sure the upper end of the slope has a berm constructed to eliminate concentrated flows from flowing down the slope.</p> <p>Slope length may be too long and concentrated flows are occurring. Use sediment tubes or other practices to provide slope breaks.</p> <p>Re-apply BFM to the eroded areas once the concentration problem has been resolved.</p>
Rain event is impending.	<p>BFM requires a cure time. Do not apply the BFM immediately before, during or after rainfall. Allow the BFM a minimum of 24 hours to dry after installation.</p>
BFM has degraded.	<p>BFM has longevity of soil protection up to 6-months. In some instances degradation of BFM occurs as a result of mechanical degradation, chemical and biological hydrolysis, sunlight, salt and temperature.</p> <p>Reapply BFM in accordance with the Manufacturer’s instructions. Reapplication is not required unless BFM treated soils are disturbed or turbidity or water quality shows the need for an additional application.</p>