
Technical

Specifications

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AIRTROL™
Geobinder



GENERAL SPECIFICATIONS FOR EROSION CONTROL

Material

A bonded fiber matrix (BFM) shall be a mixture of AIRTROL Geobinder (gypsum plaster) and natural cellulose or wood fiber mulch. The Geobinder shall consist of a naturally occurring high purity processed gypsum plaster and necessary additives, that when combined with water will form a cementitious binder that will produce a protective crust-like barrier within 4 to 8 hours after application. The gypsum shall be processed into a ground, dry, calcium sulfate hemihydrate ($\text{CaSO}_4 \frac{1}{2} \text{H}_2\text{O}$). The plaster plus necessary additives shall be furnished either in bags or bulk and be accompanied by bills of lading and shipping invoices stating the gypsum dry weight, source of manufacture, and where necessary, the gypsum purity content. Material which has become partially air set, lumpy or caked prior to use will be rejected.

The bonded fiber matrix (BFM) shall be designed for application by conventional hydroseeding equipment. The BFM shall be such that when applied the material shall form a uniform protective crust-like barrier that reduces water and wind induced erosion.

Bonded Fiber Matrix – One Step Application

The Geobinder (plaster) based BFM consisting of water, plaster, cellulose or wood fiber shall be thoroughly mixed in accordance with the following instructions and proportions. Seed and fertilizer should be mixed first into the water followed by the addition of the mulch. The mulch shall be of the non-tackified variety. These should be first mixed into the homogenous slurry and then the plaster shall be added. The proportions per seeded acre should be:

Water	4000	Gallons
Mulch Fibers (non-tackified)	1600	Pounds
Plaster	6000	Pounds

For every 100 gallons of water, add 150 pounds of plaster, 40 pounds of mulch for an average rate of 0.025 acres/100 gallons of slurry.

Upon completion of mixing, the BFM mixture shall be sprayed uniformly over the areas shown on the plans or where directed by the engineer. The equipment used to apply the BFM shall be equipped to eject the mixture at a uniform rate to provide the coverage specified above. When possible, the material should be sprayed from the top of the slope towards the bottom of the slope to provide more uniform coverage. The BFM shall be placed at least 18 inches beyond the top and toe of both cut and fill slopes and toe of fill slopes unless otherwise directed by the engineer.

Certain soil types and anticipated heavy rainfalls may require re-application or greater amount of plaster in the mix or heavier initial spray coverage to ensure maximum dust control.

Bonded Fiber Matrix – Two Step Application

The seed or seed mixture and fertilizer are to be distributed as a water slurry (hydroseeding) on areas having a slope rate generally steeper than 4:1. The seed and fertilizer mixture shall be applied to the area to be seeded within 30 minutes after all components are placed in the equipment. Upon completion of planting the seed or seed mixture, the BFM consisting of water, cellulose or wood fiber and inorganic Geobinder shall be thoroughly mixed in accordance with the following proportions per acre of seeded area:

Water	4000	Gallons
Mulch Fibers (non-tackified)	1600	Pounds
Plaster	6000	Pounds

For every 100 gallons of water, add 150 pounds of plaster, 40 pounds of mulch for an average rate of 0.025 acres/100 gallons of slurry.

Upon completion of mixing, the BFM mixture shall be sprayed uniformly over the seeded area. The equipment used to apply the BFM shall be equipped to eject the mixture at a uniform rate to provide the coverage specified above. When possible, the BFM material should be sprayed from the top of the slope towards the bottom of the slope to provide more uniform coverage. The BFM shall be placed at least 18 inches beyond the top and toe of both cut and fill slopes and toe of fill slopes unless otherwise directed by the engineer.

EQUIPMENT

Shall be of the type described as a "HYDROSEEDER/HYDROMULCHER" machine. Tank shall be clean. Mixing action shall be adequate to provide for full dispersion of materials. Hoses can be used to extend range of spraying. The top and sides of machine may be pre-coating with vegetable oil to ensure easy clean-up. To prevent set-up and excess cleaning, all equipment must be flushed within 4 hours after mixing of plaster. All equipment including the sump and drain line shall be thoroughly flushed and cleaned between mixes.

