filtrexx®
SUSTAINABLE TECHNOLOGIES

SECTION 5: SUPPORT PRACTICES

Filtrexx® FilterMedia™

PURPOSE & DESCRIPTION

Composted products used for Filtrexx® FilterMedia™ shall be weed free and derived from a well-decomposed source of organic matter. The composted products shall be produced using an aerobic composting process meeting CFR 503 regulations (In Canada: M.O.E. 101, C.C.M.E. Type "A" and Type "AA" regulations), including time and temperature data indicating effective weed seed, pathogen and insect larvae kill. The composted products shall be free of any refuse, contaminants or other materials toxic to plant growth. Non-composted products will not be accepted. Test methods for the items below should follow USCC TMECC guidelines for laboratory procedures:

Section

A. PH – 5.0-8.0 in accordance with TMECC 04.11-A, "Electrometric pH Determinations for Compost"

B. Particle size – 99% passing a 2 in (50mm) sieve and a maximum of 40% passing a 3/8 in (9.5mm) sieve, in accordance with TMECC 02.02-B, "Sample Sieving for Aggregate Size Classification". (Note- In the field, product commonly is between ½ in [12.5mm] and 2 in [50mm] particle size.)

C. Moisture content of less than 60% in accordance with standardized test methods for moisture determination.

D. Material shall be relatively free (<1% by dry weight) of inert or foreign man made materials.

E. Material feedstocks shall not contain wood materials that have been treated or painted, contain preservatives or adhesives, or are composed of engineered wood products.

F. A sample shall be submitted to the Engineer for approval prior to being used and must comply with all local, state and federal regulations.

G. Composted product shall be an approved Filtrexx FilterMedia, as determined by testing procedures outlined by Filtrexx International. A copy of an approved report shall be kept on file.

Option A: High Flow Rate, Low Maintenance
For applications where storm water and/or hydraulic flow rates may be high, flow energy dissipation is of greater priority than sediment and pollutant removal, or where low maintenance is of greater priority than sediment and pollutant removal from storm water. Examples include Soxx™ for Inlet Protection, Check Dams, and Filtration System Baffles.

Substitution for Section B (from above). Particle Size of Filtrexx FilterMedia shall use the following particle size distribution specification: 99% passing a 2 in (50mm) sieve and a maximum of 20% passing a 3/8 in (9.5mm) sieve.

Option B: High Sediment and Pollutant Removal
For applications where sediment and pollutant removal/reduction from water or storm water is a priority; pollutants include suspended solids, turbidity, nutrients, heavy metals, and petroleum hydrocarbons. It should be noted that maintenance requirements (for sediment removal) may be higher with Option B. It should also be noted that hydraulic flow through rates/permittivity of the FilterMedia will be lower with this option. For some BMPs it is acceptable for overflow to occur and in some cases this may be part of the engineering design - examples include Soxx for Check Dams and Slope Interruption.

Substitution for Section B (from above). Particle Size of Filtrexx FilterMedia shall use the following particle size distribution specification: 99% passing a 2 in (50mm) sieve and a maximum of 60% passing a 3/8 in (9.5mm) sieve.

Rationale for Options: Research conducted by USDA-ARS (Faucette et al, 2006) and the Soil

Control Lab, Inc. (Faucette et al, 2006a), have reported strong relationships between hydraulic flow through rate of FilterMedia and sediment and pollutant removal efficiency. Typically the higher the hydraulic flow through rate the lower the sediment and pollutant removal efficiency. Both studies reported that larger particles size distributions of FilterMedia typically exhibit higher hydraulic flow through rates and lower sediment and pollutant removal efficiencies.

ADDITIONAL INFORMATION

For other references on this topic, including additional research reports and trade magazine and press coverage, visit the Filtrexx website at www.filtrexx.com

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REFERENCES CITED & ADDITIONAL RESOURCES

Faucette, B., K. A. Sefton, A. M. Sadeghi, and R. A. Rowland, 2006. Sediment and nutrient removal from storm runoff with compost filter socks and silt fence. 2006 American Society of Agricultural and Biological Engineers Annual International Conference. Portland, OR. In: Filtrexx Library

Faucette, B, F. Shields, and Kurtz. 2006. Removing storm water pollutants and determining relations between hydraulic flow-through rates, pollutant removal efficiency, and physical characteristics of compost filter media. Second Interagency Conference on Research in Watersheds, 2006 Proceedings. Coweeta Hydrologic Research Station, NC. In: Filtrexx Library