

1-05

Filtrexx Filter Ring™ - Overview



Description

Filtrexx Filter Rings™ are to be used for temporary filtration in situations that allow space for separation of water from solids in a passive manner. Filtrexx Filter Rings™ are a scalable system for filtering a number of contaminants from stormwater, sump water, and other situations requiring filtration prior to offsite discharge. Filter Rings™ are an inexpensive option compared to other competing products and are simple to maintain. If they fill up, simply add more Filter Rings™ in a larger diameter. Scalable filtration is available via sizes in diameter of the FilterSoxx™, filtration rate of material, or diameter of Filter Rings™. Add multiple Filter Rings™ for tough flow rates.

Conditions where practice applies

Use Filtrexx Filter Rings™ in areas where slurry or high water content effluent creates problems with water quality. This might include pump around situations in streambank construction projects, overflow situations and other temporary filtration projects. It is imperative to have enough space on site to allow water to percolate through the FilterSoxx™ and drain away, leaving the sediment or filtrate behind. After water has been removed, filter cake or filtrate can be scooped up and disposed of or land applied, depending on the nature of the material. This practice stands to save significant monies compared to disposal of high water content solids without filtration.

Design Criteria

Design limits - Filtrexx Filter Rings™ are designed to be used outdoors and are subject to ambient weather conditions. Additional rainfall may reduce speed and effectiveness. During project design, flow through rates should be selected that match design goals for the project.

Spacing – see specifications. Filter Rings™ are friendly in design because if the flow rates are higher or lower than expected, new ones may be constructed larger or smaller in diameter to accommodate the difference. If more than one ring is required to slow filtration water, leave a minimum of one foot spacing between rings.

Orientation – In general, the Filtrexx Filter Rings™ are installed in a circular pattern. However, depending on the site conditions, many other shapes may be used, including a partially open horseshoe or half circle.

Staking – The ends of the Filtrexx Filter Rings™ should be overlapped and staked (see CAD drawings). In areas of poor ground contact, additional stakes should be added every 2-5 feet. On pavement or concrete applications, Filter Rings™ should be depressed when installed in order to maximize ground contact and footprint.

Planning considerations

Filter Rings™ are a passive filtration device and operate based on a constant or reducing flow through rate. They are not capable of suddenly increasing filtration rate to keep up with increasing storm events. Care must be taken to over estimate amount of water that is required for filtration. Consider designing drainage capacity to be 2-4 times the expected amount of water required for filtration to adequately plan for unexpected storm events and higher emergency flow rates.

Specifications for Using Filtrexx Filter Ring™

Section ____: Filtrexx Filter Rings™ Installation and Maintenance

1.0 Description:

This works shall consist of furnishing, installing, maintaining and dispersing (or disposing of - if needed) a water permeable Filtrexx Filter Ring™. The Filter Ring™ will be responsible for filtration of water related to the construction project in such a way that reduces handling of contaminated water.

2.0 Composted Products used to fill Filtrexx Filter Ring™

1. Composted Product: Compost (Filter Media™) used for Filtrexx Filter Rings™ shall be weed free and derived from a well-decomposed source of organic matter. The

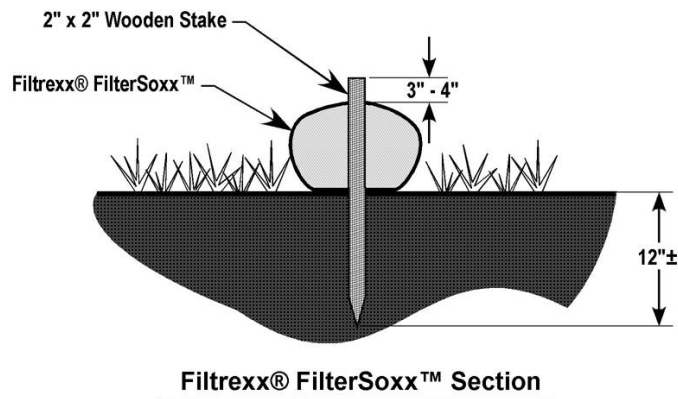
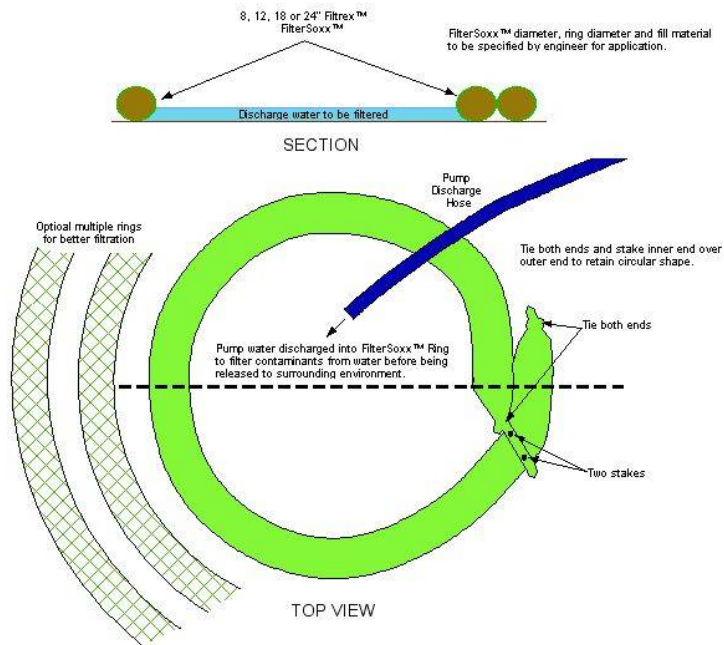
compost shall be produced using an aerobic composting process meeting CFR 503 regulations, including time and temperature data indicating effective weed seed, pathogen and insect larvae kill. The compost shall be free of any refuse, contaminants or other materials toxic to plant growth. Non-composted products will not be accepted. Test methods for the items below should follow USCC TMECC guidelines for laboratory procedures:

- 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” sieve and a minimum of 70% greater than the 3/8” sieve, in accordance with TMECC 02.02-B, “Sample Sieving for Aggregate Size Classification”. (In the field, the product commonly requested is between ½” and 2” 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. A sample shall be submitted to the engineer for approval prior to being used and must comply with all local, state and federal regulations.
- F. Compost product shall be an approved Filtrexx FilterMedia™, as determined by testing procedures outlined by Filtrexx International, LLC. A copy of an approved report shall be kept on file.

3.0 Construction and installation of Filtrexx Filter Rings™:

1. Filtrexx Filter Rings™ will be used as a form of passive drainage for contaminated water construction sites, which require protection against sediment-laden water.
2. Filtrexx Filter Rings™ will be placed at locations indicated on plans as directed by the Engineer.
3. Installation of Filtrexx Filter Rings™ will be anchored to the soil using stakes where required.
4. Standard sizes of Filter Rings™ should be 12” for normal flows, 18” for heavy flows and 24” for severe flows. In severe flow situations, the Engineer may recommend larger footprint or multiple Filter Rings™. Filter Rings™ can be stacked one on top of the other, if additional height is required.
5. Filter Rings™ shall be constructed of a tubular knitted mesh material and filled with a compost product that passes the criteria listed in section 2.
6. If the Filter Rings™ become clogged with debris and sediment, they shall be maintained so as to assure a proper drainage and water flow into the drainage channel.

- For areas where Filter Rings™ are to be left as a permanent part of the landscape, Filter Rings™ may be seeded during time of manufacture. For seeding options, the Engineer may consult with native plant experts to determine what seeds, sprigs, bare root or live cuttings would be appropriate.



4.0 Maintenance:

- The contractor shall maintain Filtrex Filter Rings™ in a functional condition at all times and it shall be routinely inspected.

2. Where the Filter Rings™ requires repair, it will be routinely repaired.
3. The contractor shall remove sediments collected by the Filter Rings™ when they become 80% full, or as directed by the Engineer.
4. The Filtrexx Filter Rings™ will be dispersed on site when no longer required, as determined by the Engineer. The netting material will be disposed of in normal trash containers or removed by the contractor.
5. For materials that are filtered and contain hazardous or toxic compounds, additional disposal requirements will be directed by the Engineer.
6. For Filter Rings™ made with biodegradable netting materials, no disposal of netting will be needed.

5.0 Method of measurement:

Bid items shall show measurement as specified diameter of 'Filtrexx Filter Rings™' per linear foot, installed, as specified by the Engineer. (i.e., 12" Filter Rings™ at 100 linear feet).

6.0 Performance:

1. Contractor is responsible for establishing a working erosion control & filtration system and may, with approval of the engineer, work outside the minimum construction requirements as needed.
2. Where the Filter Rings™ deteriorates or fails, it will be repaired or replaced with a more effective alternative.

7.0 Application guidelines:

1. Filtrexx Filter Rings™ shall either be made on site or delivered to the jobsite using Filtrexx FilterSoxx™ materials in a 5 mil tubular, continuous, HDPE 3/8"knitted mesh netting material, filled with compost passing the above specifications for compost products as outlined in Section 2.0.
2. Filtrexx FilterSoxx™ netting materials are available only from Filtrexx International, LLC and are the only Certified mesh materials accepted in creating Filtrexx products on site or as delivered to the job site. Standard Filtrexx color coding systems include Yellow and Black (8"), Orange and Black (12"), or Red and Black (18") striped mesh netting. Other colors are only acceptable as approved by both the engineer and Filtrexx International, LLC.
3. Contractor is required to be a certified Filtrexx Installer as determined by Filtrexx International, LLC (440-926-8041 or visit website at Filtrexx.com). Certification shall be considered current if appropriate identification is shown during time of bid or at time of application.

8.0 Available Vendors

Filtrexx Filter Rings™ may be purchased from the following Certified Filtrexx Installers:
(see website for current listing)

Filtrexx International, LLC

35481 Grafton Eastern

Grafton, OH 44044

440-926-8041

440-926-4021 (fax)

www.filtrexx.com

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