



## TECHNOLOGY

# Advanced Filtration Media for Treating Urban Stormwater Runoff

## OVERVIEW

### Background

Sand filters are used to remove suspended solids from urban stormwater runoff. These suspended particles can block sunlight, deposit on organisms, and exert an oxygen demand. They can also carry pollutants such as phosphorus, hydrocarbons, and metals like zinc, copper, and lead. Filtering these particles from urban stormwater runoff is important to prevent pollution from entering ground and surface water supplies. Sand filters are currently used to remove these suspended particles, but these filters will clog overtime. After clogging, there is no method of cleaning the filter except to replace the sand in a highly labor intensive process.

Researchers at the University of Maryland, in conjunction with TATE, Inc., have developed a new cost-effective filter material and stormwater treatment system. The filter is as effective as sand at removing suspended particles from stormwater runoff, and when used in the new treatment system design, is a self-cleaning media that eliminates the need to replace the filter material when it becomes clogged.

### Advantages

- Filter material lasts longer than sand filters, lowering system maintenance costs
- Filter is as effective as sand at filtering particles of .106mm to .125mm in size, allowing it to filter a wide range of particle sizes
- Filter has a high flow rate, allowing large quantities of stormwater to be treated

### Applications

The current application is in filtering suspended particles in urban stormwater runoff. However, the filter media can be adapted to many filtering applications.

### Stage of Development

Geosynthetic filter media of varying porosity has been developed and tested with particle sizes of .106mm to .125mm and flow rates of 3ml/s. Work is continuing.

## CONTACT INFO

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## Additional Information

## INSTITUTION

University of Maryland, College Park

**PATENT STATUS**

Patent(s) pending

**LICENSE STATUS**

Contact OTC for licensing information

**CATEGORIES**

- Engineering
- Clean Technology
- Materials

**EXTERNAL RESOURCES**

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