

# Ohio Firm Develops Scrap Tire Drainage Filter Elements

A new type of tire-chip based drainage filter improves both the installation and maintenance of underground drainage systems. Developed by the Terran Corporation, Beavercreek, OH, the new drainage filters consist of tire-chip sacks which can be packed around underground drainage pipes to allow water to percolate into the soil.

For the new filters, tire chips are placed in specially constructed fabric bags that have an open mesh on the side of the bag that lays against the perforated drainage pipe and a filter fabric on the side that lays against the soil. Each bag is designed to hold approximately 40 lbs. of tire chips, making the unit a one-person lift.

Using the bags makes it possible to build a tire chip drainage systems without bringing loose chips onto the construction site. Since no one has to handle the chips directly there is less of a problem with cuts from the reinforcing wires during the installation of the leach field, the company said.

The tire chip-filled bags arrive on pallets on a stake-bed truck and can be off loaded along the layout of the leach field for easy placement in the drainage trenches.

Because filter fabric is part of the filter element, the time and cost of placing filter fabric in the bottom of the trench is eliminated, Brent Huntsman of the Terran Corporation, said. The bags are made of nylon and polypropylene fabric and constructed with flaps of filter fabric that overlap to maintain a continuous coverage of fabric between the chips and the soil.

When it is necessary to uncover the drainage laterals for service, the trench can be re-excavated and the bags can be pulled out, saved and put back into the trench after repairs are made. "This is a big improvement over other systems that would require loose chips be excavated, disposed of and replaced with new material," Huntsman said.

To develop the new drainage filters, Terran Corporation worked with the U.S. Army Corps of Engineers Research and Development Center under a Cooperative Research and Development Agreement directed at pioneering environmentally friendly construction techniques and the use of recycled materials in construction. Terran Corporation has patent rights for the development and can work with government organizations or private corporations that would like to make the technology available to tire chippers or contractors. For more information contact (937) 320-3601



*Filter elements are filled with tire chips (above) prior to being placed in drainage trenches. The white side of the filter unit is a nylon open mesh, the black fabric is a punch-woven nylon polypropylene geofabric designed for soil drainage.*



*Each element weighs approximately 40 lbs. and can be lifted and placed by one person.*



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