



# DRAINAGE GEONETS & GEOCOMPOSITES

Solmax's drainage geonets and geocomposites are highly-engineered drainage systems designed for applications that demand superior flow and filtering performance, such as coal ash containment, heap leach pad mining, landfills, and more.

## FASTER, EASIER, MORE EFFECTIVE

Drainage geonets and geocomposites offer a faster, less labour intensive, more effective and eco-friendly solution than traditional sand and gravel drainage systems.

Our bi-planar, tri-planar and tri-axial geonets and geocomposites are engineered to meet specific drainage application needs. Our wide range of drainage product selections are designed for various applications, including but not limited to, leachate collection and removal system, leak detection system, and gas removal system.

## SUPERIOR PRODUCT COMPOSITION

The three-dimensional biplanar drainage structure of our geonets are designed to replace a sand or gravel drainage system. Our geocomposites include a geotextile that is heat-laminated to one or both sides of a drainage structure to prevent clogging of the drainage core by soil particles. Geotextiles may also be laminated to geonet cores when there is a need to increase frictional characteristics with another geosynthetic.

- **Bi-planar** geonets and geocomposites comprise two sets of HDPE strands, intersecting at different angles and spacing. Besides our typical bi-planar structure, Solmax also have specifically designed round strands bi-planar for high compressive loading application and directional flow bi-planar for high flow application

## ADVANTAGES OF GEONETS AND GEOCOMPOSITES



- Require less sub-grade preparation and occupy less airspace than natural drainage soils
- Easy to handle and install
- Excellent long-term hydraulic performance and creep resistance
- Meet stringent regulations



- **Tri-planar** geonets and geocomposites consist of centralized HDPE strands that provide channelized flow, and diagonally placed top and bottom strands that minimize geotextile intrusion.
- **Tri-axial** geonets and geocomposites have vertical central HDPE strands with either horizontal top strands (T-shaped) or horizontal top and bottom strands (box-shaped) for superb performance.

## LEACHATE COLLECTION AND REMOVAL

The leachate collection and removal system (LCRS) is a lateral drainage system that is used to remove leachate from the lining system to maintain less than, or equal to a 1-foot head of liquid as required by regulations (EPA Subtitle D). Drainage geocomposites are used in this application in place of natural soils because natural soils require extra preparation of the sub-grade and consume valuable airspace (typically one or more feet of soil). Drainage geocomposites, installed by simply unrolling the product, are used in this application in place of natural soils. They require less sub-grade preparation and occupy far less airspace than natural drainage soils (0.20 to 0.30 inches versus one or more feet of soil). They provide excellent long-term hydraulic performance and creep resistance, ensuring the leachate collection system will continue working over the life of the project.

## LEAK DETECTION

Leak detection system (LDS) warns of any failure of the primary liner system. Hazardous waste landfill regulations (EPA Subtitle C) require use of a double liner system that comprises two HDPE geomembrane liners with a geonet or geocomposite in the middle to create a leak detection system. The use of a drainage geonet provides high transmissivity which will continue to limit the head on the secondary liner to the thickness of the drainage geonet. Geonets will also move leachate quickly through the system to leak detection locations. The use of a tri-axial drainage geonet helps to maintain the integrity of an overlying geosynthetic clay liner (GCL) when a geomembrane or GCL composite liner is used.

## GAS REMOVAL

Gas pressure can cause failure of geocomposite liners and cover systems. Drainage geocomposites offer a better solution. Biodegradation of organic materials can generate gas and create gas pressure build up underneath a geomembrane liner and cause the system to fail. In a final cover system, gas pressure (e.g., from waste) can accumulate underneath the geomembrane causing slope instability or slope failure. To effectively reduce volumes of gas build-up, a drainage geocomposite can be installed to collect and discharge gas to a gas venting system or gas collection system.

BI-PLANAR GEONET



TRI-PLANAR GEONET



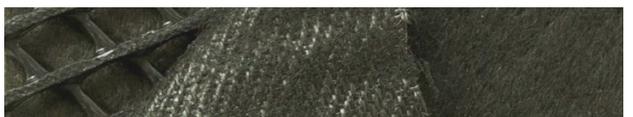
TRI-AXIAL GEONET



BIODRAIN GEOCOMPOSITE



COALDRAIN GEOCOMPOSITE



MINEDRAIN GEOCOMPOSITE



- Solmax's highly-engineered drainage systems are designed
- for applications that demand superior flow and filtering
- performance.

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