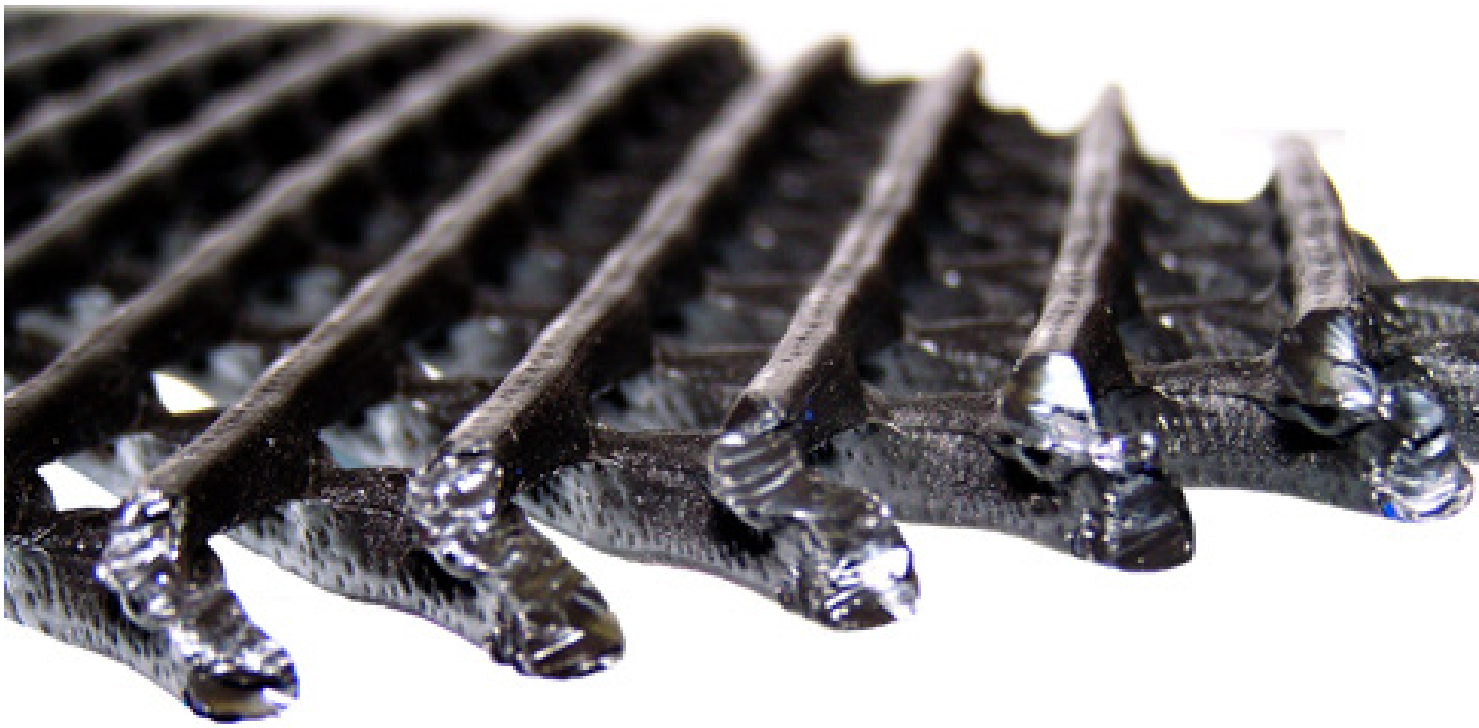
Global Synthetics
LEADERS IN GEOSYNTHETICS

TRANSNET® Geocomposite Drains

Geonet & Geonet Composites

The proven choice for advanced environmental drainage control



Product Information

Transnet® is a biplanar geonet manufactured from high density polyethylene for the purposes of environmental drainage control.

The product may be laminated with a nonwoven geotextile for applications where a fi ltration function is required.

Transnet® is available in wide widths for ease of installation.

Applications

- Landfill drainage systems
- Landfill leak detection systems
- Membrane protection
- Landfill cap drainage systems
- Leachate collection & removal
- Gas venting systems
- and many applications for liquid collection and management of liquid in a wide range of applications

Transnet® Geocomposite Drains

Transnet® Geonet

Global Synthetics supply Transnet® geonet drainage products in a range of thicknesses from 4mm to 12mm. Transnet® is specially formulated from high density polyethylene (HDPE) to allow for use in a range of high load applications such as landfill cells where compression resistance is critical.

The biaxial, biplanar grid design, which is the standard in today's geonet and geocomposite products, provides high flow characteristics in both the roll length and cross roll length directions. The ability to allow complete flow in all directions is critical, due to the irregular surfaces that may be caused by settlement and construction issues at the drainage layer levels. Transnet® is also available as a geocomposite that is a Transnet® geonet bonded to a nonwoven geotextile.

A range of geotextiles are available to best suit specific site conditions.

Transnet® Geonet Geocomposite

When the Transnet® geonet has a geotextile bonded to the geonet structure this gives the product the ability to effectively drain and filter liquids. The ability to provide an effective filtration function is required when the Transnet® product is being used in leachate solutions such as are commonly found in landfills and mining applications.

The Transnet® geonet geocomposite uses quality, polypropylene (PP) nonwoven geotextiles and quality, high density polyethylene (HDPE) resins in the manufacture of the geocomposite drain.

The geotextile may be supplied in a range of weights for optimal performance and can be heat bonded in either a single or double sided configuration to the geonet. The geotextiles used in the manufacture of the Transnet® Geocomposites are resistant to ultraviolet degradation, rotting, biological degradation, and naturally encountered acids and alkalis within the range of pH 2-13.

Both polypropylene and HDPE are recognised as being highly resistant to landfill leachate and other aggressive solutions.

Benefits of Transnet®

- Stable geonet and grid structure manufactured from polymers that are highly resistant to deterioration from a wide range of aggressive solutions.
- High quality nonwoven geotextile available in a range of weights and filtration characteristics that is factory bonded to the geonet structure.
- Polypropylene nonwoven geotextiles are proven to be highly durable to a wide range of leachate types.
- Ability to custom manufacture drainage product to specific client requirements.
- Wide width rolls to minimise installation costs.
- One composite product that minimises installation time in the field. When required, the geonet can be laminated to a geotextile saving labour time and resources in the field. Lamination can be carried out to one or both geonet faces dependant upon the application of use.
- Unique biplanar drainage structure for flow in all directions. Flow is unrestricted unlike other profiles.
- High flow capacity under very high loads.
- Economical alternative to traditional granular drainage layers.
- High peel strength with heat bonded geotextile without the use of glue.

Transnet® Geocomposite Drains

Technical Data: Transnet® HDPE Geonet

GEONETCORE					HDPE						QUALIFICATION
PROPERTY	**TEST METHOD**	**UNITS**	**TN160**	**TN220**	**TN250**	**TN270**	**TN300**	**TN330**	**TN350**	**TN500**	
Thickness	ASTM D-5199	mm	3.8	5.00	5.8	6.3	7.00	7.6	8.4	12.06	MAV[2]
Tensile Strength	ASTM D-5035	kN/m	5.2	7.8	8.7	9.6	11.3	13.1	17.5	24.48	MAV[2]
Carbon Black	ASTM D-4218	%	2	2	2	2	2	2	2	2	MAV[2]
Melt Flow	ASTM D-1238[4]	g/10m	1	1	1	1	1	1	1	1	Maximum
Density	ASTM D-1505	g/cm^3	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	MAV[2]
Transmissivity	ASTM D-4716	m^2/sec	1x10^{-3}	2x10^{-3}	2.5x10^{-3}	3x10^{-3}	6x10^{-3}	8x10^{-3}	9x10^{-3}	1.5x10^{-2}	MAV[2]
Compressive	ASTM D-6364	kPa	450	650	830	1300	1530	1920	2275	1500	MAV[2]
PRODUCT DIMENSIONS											
Roll Width	Manufacturer	m	3.81	3.81	3.81	3.81	3.81	3.81	3.81	3.81	Range
Roll Length	Manufacturer	m	97.5	91.4	76.2	68.5	61	54.9	51.8	44.2	Range

Technical Data: Transnet® HDPE Geonet Geocomposite

GEONETCORE					HDPE						QUALIFICATION
PROPERTY	**TEST METHOD**	**UNITS**	**TN160-2-200**	**TN220-2-200**	**TN250-2-200**	**TN270-2-200**	**TN300-2-200**	**TN330-2-200**	**TN350-2-200**	**TN500-2-200**	
Thickness	ASTM D-5199	mm	3.8	5.00	5.8	6.3	7.00	7.6	8.4	12.06	MAV[2]
Tensile Strength	ASTM D-5035	kN/m	5.2	7.8	8.7	9.6	11.3	13.1	17.5	24.48	MAV[2]
Carbon Black	ASTM D-4218	%	2	2	2	2	2	2	2	2	MAV[2]
Melt Flow	ASTM D-1238[4]	g/10m	1	1	1	1	1	1	1	1	Maximum
Density	ASTM D-1505	g/cm^3	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	MAV[2]
Transmissivity	ASTM D-4716	m^2/sec	1x10^{-3}	2x10^{-3}	2.5x10^{-3}	3x10^{-3}	6x10^{-3}	8x10^{-3}	9x10^{-3}	1.5x10^{-2}	MAV[2]
Compressive	ASTM D-6364	kPa	450	650	830	1300	1530	1920	2275	1500	MAV[2]
COMPOSITE CORE & GEOTEXTILE											
Ply Adhesion	ASTM D-7005	g/cm	178	178	178	178	178	178	178	178	MAV[2]
Transmissivity	ASTM D-4716	m^2/sec	1x10^{-4}	1x10^{-4}	2.7x10^{-4}	5x10^{-4}	7x10^{-4}	9x10^{-4}	1.2x10^{-3}	2x10^{-3}	MAV[2]
GEOTEXTILE5 NONWOVEN NEEDLE PUNCHED POLYPROPYLENE *Other grades of geotextile available											
Fabric Mass	ASTM D-5261	g/m^2	200	200	200	200	200	200	200	200	MARV[3]
Grab Tensile	ASTM D-4632	N	711	711	711	711	711	711	711	711	MARV[3]
Grab Elongation	ASTM D-4632	%	50	50	50	50	50	50	50	50	MARV[3]
Trap Tear	ASTM D-4533	N	289	289	289	289	289	289	289	289	MARV[3]
CBR Puncture	ASTM D-6241	N	2000	2000	2000	2000	2000	2000	2000	2000	MARV[3]
Water Flow	ASTM D-4491	l/min/m^2	5093	5093	5093	5093	5093	5093	5093	5093	MARV[3]
Permittivity	ASTM D-4491	sec^{-1}	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	MARV[3]
Permeability	ASTM D-4491	cm/sec	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	MARV[3]
Pore Size	ASTM D-4751	microns	<212	<212	<212	<212	<212	<212	<212	<212	MAXARV
PRODUCT DIMENSIONS - GEOCOMPOSITE FABRIC ONE SIDE											
Roll Width	Manufacturer	m	3.81	3.81	3.81	3.81	3.81	3.81	3.81	3.81	Range
Roll Length	Manufacturer	m	94.5	91.4	73.15	67.0	61.0	57.9	51.8	42.7	Range
PRODUCT DIMENSIONS - GEOCOMPOSITE FABRIC TWO SIDES											
Roll Width	Manufacturer	m	3.81	3.81	3.81	3.81	3.81	3.81	3.81	3.81	Range
Roll Length	Manufacturer	m	83.8	76.2	64.00	61.00	57.9	54.9	48.7	36.6	Range

NOTES:

1. Transmissivity values determined at i=0.1 and a conforming pressure of 480Kpa between stainless steel plates after 15 mins. Water @21±2°C. Values may vary with individual labs. Design values for 100 hours (Q100) for other hydraulic gradients and confi ning pressures are available upon request.
2. MAV=Minimum Average Value.
3. MARV is statistically defi ned as the mean minus two standard deviations and is the value which is exceeded by 97.5% of test data.
4. Condition 190/2.16
5. Geotextile data is given for a 200g/m2 nonwoven needle punched polypropylene product. Other geotextiles are available and are typically 140g/m2 - 540g/m^2. Roll dimensions may vary.
6. Roll lengths may vary dependent upon project requirements.

About Us

Leaders in Geosynthetics

Global Synthetics is a 100% Australian-owned company, proud to offer a complete range of high-quality geosynthethic products backed by over 200 years of combined staff experience in the industry.

We have supplied products to some of the largest recent infrastructure works in Australia. Global Synthetics provides major benefits to any geotechnical engineering project with the right products and our technical expertise.

Global Synthetics products are used in the following applications:

- Pavement Stabilisation
- Ground Improvement
- Soil Reinforcement and Retaining Structures
- Water Management
- Drainage Systems & Hydraulic Works
- Landfills
- Coastal Erosion Structures

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