



GEOQUEST



TerraFlow

BI-PLANAR GEONET DRAINAGE COMPOSITES



TerraFlow Geocomposite consists of bi-planar High-Density Polyethylene (HDPE) geonet having non-woven polypropylene (PP) geotextile heat bonded on both sides.

Bi-planar geonet is designed with two HDPE strands crossing each other at a constant angle to form a diamond structure with uniform channels and thickness, to provide better planar waterflow under high loading.

Tri-planar geonet consists of three HDPE strands. One in the middle that provides channelised flow, while the two diagonal strands minimize the geotextile intrusion and improves the lateral drainage and transmissivity.

Applications

- **Drainage behind Retaining Walls, MSE and Buried Structures:** Used as substitute of aggregate drainage filter media behind retaining structures, MSE wall and as vertical/horizontal drains in soil embankments, basements, reservoirs, behind waterproof and damp-proof courses / treatments.
- **Slope and Embankment Construction:** Alternative to aggregate chimney drains for sub-surface drainage.
- **Tunneling:** Ground water seepage interception between rock face and the tunnel lining. Also used to catch and drain water in cut and cover tunnels.
- **Landfill:** A drainage option for landfill cell and capping.
- **Mining:** An alternative to aggregate drains, acts as cushion and protects the liner from damage in "Heap Leaching" technology.
- **Ponds:** Used for protection of geomembrane and for effective drainage of mitigating gas and liquid for various ponds like leachate ponds, brine ponds, wastewater ponds and alike.

TerraFlow Technical Parameters

PROPERTY	TEST METHOD	UNIT	VALUE	QUALIFIER
Geonet				
Thickness	ASTM D 5199	mil (mm)	200 (5.08)	MAV ³
Carbon Black	ASTM D 4218	%	2	MAV
Tensile Strength	ASTM D 7179	lb/in (kN/m)	45 (7.87)	MAV
Melt Flow	ASTM D 1238 ²	g/10 min	1	Maximum
Density	ASTM D 1505	g/cm ³	0.94	MAV
Composite				
Ply Adhesion	ASTM D 7005	lb/in (g/cm)	1.0 (178)	MAV
Mass per Unit Area	ASTM D 5261	lb/sf (g/m ²)	0.21 (1.025)	MAV
Transmissivity ¹	ASTM D 4716	m ² /sec	8.0 x 10 ⁻⁵	MAV
Geotextile				
Fabric Weight	ASTM D 5261	oz/yd ² (gm/m ²)	6 (203)	MARV ⁴
Grab Tensile	ASTM D 4632	lb (N)	160 (711)	MARV
Grab Elongation	ASTM D 4632	%	50	MARV
Trapezoid Tear	ASTM D 4533	lb (N)	65 (289)	MARV
CBR Puncture	ASTM D 6241	lb (N)	450 (2002)	MARV
Water Flow ⁵	ASTM D 4491	gpm/ft ² (l/min/m ²)	125 (5093)	MARV
Permittivity ⁵	ASTM D 4491	sec ⁻¹	1.63	MARV
Permeability ⁵	ASTM D 4491	cm/sec	0.3	MARV
AOS	ASTM D 4751	US Sieve (mm)	70 (0.212)	MaxARV

¹ Transmissivity measured using water at 21 + 2 oC (70 + 4 oF) with a gradient of 0.33, 0.25 and 0.20 with a confining pressure of 10,000 kg/m2 between steel plates after 15 minutes. Values may vary with individual labs.

² Condition 190/2.16

³ Minimum average value.

⁴ MARV is statistically defined as mean minus two standard deviations and it is the value which is exceeded by 97.5% of all the test data.

⁵ At the time of manufacturing. Handling may change these properties.

NOTES:

- These properties may change at the time of manufacturing, handling, storage and shipping.
- Testing of TerraTextile (Non-woven geotextile) being used in TerraFlow (geocomposite) to be performed on separate fabric, not one detached from the geocomposite.
- The values can be customized
- The above values are subject to change as per discretion of the company

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