The Pioneer Of Geosynthetics

S I N C E 1 9 7 2

Product Data Sheet

GSE PermaNet TRx Geocomposite

GSE PermaNet TRx high flow geocomposite is produced with a unique one step coextrusion process that generates a triaxial geonet structure with creep resistant columns connected to an intrusion resistant roof. This product achieves high in-situ transmissivity from optimally oriented flow channels that maintain porosity because of the intrusion and creep resistant nature of the triaxial structure. The geocomposite has a strand structure that is specifically designed to withstand high stresses. It also provides durable performance over a broad range of conditions that is ideal for extremely high compressive stress applications.

Product Specifications

TESTED PROPERTY	TEST METHOD	FREQUENCY	MINIMUM AVERAGE VALUE		
Geocomposite			**4 oz/yd²**	**6 oz/yd²**	**8 oz/yd²**
Transmissivity[1], gal/min/ft (m²/sec) Double-Sided Composite Single-Sided Composite	ASTM D 4716	1/540,000 ft²	 4.8 (1 x10^{-3}) 6.2 (1.3 x 10^{-3})	 4.8 (1 x10^{-3}) 6.2 (1.3 x 10^{-3})	 4.8 (1 x10^{-3}) 6.2 (1.3 x 10^{-3})
Ply Adhesion, lb/in (g/cm)	ASTM D 7005	1/50,000 ft²	1.0 (178)	1.0 (178)	1.0 (178)
Geonet Core - GSE PermaNet TRx					
Transmissivity[2], gal/min/ft (m²/sec)	ASTM D 4716		19.2 (4.0 x 10^{-3})	19.2 (4.0 x 10^{-3})	19.2 (4.0 x 10^{-3})
Creep Reduction Factor	GRI-GC8	once per formulation	1.2 @ 15,000 psf	1.2 @ 15,000 psf	1.2 @ 15,000 psf
Density, g/cm³	ASTM D 1505	1/50,000 ft²	>0.94	>0.94	>0.94
Tensile Strength[3], lb/in (N/mm)	ASTM D 5035/7179	1/50,000 ft²	75 (13.3)	75 (13.3)	75 (13.3)
Carbon Black Content, %	ASTM D 1603*/4218	1/50,000 ft²	>2.0	>2.0	>2.0
Geotextile (prior to lamination)[4]					
Mass per Unit Area, oz/yd²(g/m²)	ASTM D 5261	1/90,000 ft²	4	6	8
Grab Tensile, lb (N)	ASTM D 4632	1/90,000 ft²	120 (530)	160 (710)	220 (975)
Puncture Strength, lb (N)	ASTM D 4833	1/90,000 ft²	60 (265)	90 (395)	120 (525)
AOS, US sieve (mm)	ASTM D 4751	1/540,000 ft²	70 (0.212)	70 (0.212)	80 (0.180)
Permittivity, (sec^{-1})	ASTM D 4491	1/540,000 ft²	1.8	1.5	1.3
Flow Rate, gpm/ft² (lpm/m²)	ASTM D 4491	1/540,000 ft²	135 (5,495)	110 (4,480)	95 (3,865)
UV Resistance, % retained	ASTM D 4355 (after 500 hours)	once per formulation	70	70	70
NOMINAL ROLL DIMENSIONS					
Geonet Core Thickness, mil (mm)	ASTM D 5199	1/50,000 ft²	300 (7.6)	300 (7.6)	300 (7.6)
Roll Width[5], ft (m)			15 (4.5)	15 (4.5)	15 (4.5)
Roll Length[5], ft (m)	Double-Sided Composite		170 (51.9)	160 (48.8)	160 (48.8)
	Single-Sided Composite		190 (57.9)	190 (57.9)	180 (54.9)
Roll Area, ft² (m²)	Double-Sided Composite		2,550 (236)	2,400 (223)	2,400 (223)
	Single-Sided Composite		2,850 (265)	2,850 (265)	2,700 (251)

NOTES:

- [1]This is an index transmissivity value measured at stress = 10,000 psf; gradient = 0.1; time = 15 minutes; boundary conditions = plate/geocomposite/plate. Contact GSE for performance transmissivity value for use in design.
- [2]This is an index transmissivity value measured at stress = 10,000 psf; gradient = 0.1; time = 15 minutes; boundary conditions = plate/geonet/plate. Contact GSE for performance transmissivity value for use in design.
- [3]Tested in machine direction (MD).
- [4]All properties are minimum average values except AOS (mm) which is a maximum value and UV resistance which is a typical value.
- [5]Roll widths and lengths have a tolerance of ±1%.
- *Modified.

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