

GSE PermaNet 270 mil Geocomposite

GSE PermaNet 270 mil geocomposite is manufactured with a GSE PermaNet geonet heat-bonded on one or both sides with a GSE nonwoven needle-punched geotextile. The geotextile is available in mass per unit area range of 6 oz/yd² to 16 oz/yd². The round strand, creep resistant structure of the product ensures continuous flow performance over a broad range of conditions and long durations and is ideal for extremely high compressive stress applications.



AT THE CORE:
A high load geocomposite for extremely high compressive stress applications.

Product Specifications

Tested Property	Test Method	Frequency	Minimum Average Value		
Geocomposite			6 oz/yd ²	8 oz/yd ²	10 oz/yd ²
Transmissivity ⁽¹⁾ , gal/min/ft (m ² /sec)	ASTM D 4716	1/540,000 ft ²	4.8 (1 x 10 ⁻³)	4.8 (1 x 10 ⁻³)	4.8 (1 x 10 ⁻³)
Double-Sided Composite			6.2 (1.3 x 10 ⁻³)	6.2 (1.3 x 10 ⁻³)	6.2 (1.3 x 10 ⁻³)
Single-Sided Composite					
Ply Adhesion, lb/in	ASTM D 7005	1/50,000 ft ²	1.0	1.0	1.0
Geonet Core - GSE PermaNet ^(2,3)					
Geonet Core Thickness, mil	ASTM D 5199	1/50,000 ft ²	270	270	270
Transmissivity ⁽¹⁾ , gal/min/ft (m ² /sec)	ASTM D 4716	1/540,000 ft ²	19 (4 x 10 ⁻³)	19 (4 x 10 ⁻³)	19 (4 x 10 ⁻³)
Compressive Strength, lbs/ft ²	ASTM D 6364	1/540,000 ft ²	40,000	40,000	40,000
Creep Reduction Factor	ASTM D 7361	per formulation	1.2 @15,000 psf	1.2 @15,000 psf	1.2 @15,000 psf
Density, g/cm ³	ASTM D 1505	1/50,000 ft ²	0.94	0.94	0.94
Tensile Strength (MD), lb/in	ASTM D 7179	1/50,000 ft ²	100	100	100
Carbon Black Content, %	ASTM D 4218	1/50,000 ft ²	2.0	2.0	2.0
Geotextile (prior to lamination) ^(2,3)					
Mass per Unit Area, oz/yd ²	ASTM D 5261	1/90,000 ft ²	6	8	10
Grab Tensile Strength, lb	ASTM D 4632	1/90,000 ft ²	160	220	260
Grab Elongation	ASTM D 4632	1/90,000 ft ²	50%	50%	50%
CBR Puncture Strength, lb	ASTM D 6241	1/540,000 ft ²	435	575	725
Trapezoidal Tear Strength, lb	ASTM D 4533	1/90,000 ft ²	65	90	100
AOS, US Sieve (mm)	ASTM D 4751	1/540,000 ft ²	70 (0.212)	80 (0.180)	100 (0.150)
Permittivity, sec ⁻¹	ASTM D 4491	1/540,000 ft ²	1.5	1.3	1.0
Water Flow Rate, gpm/ft ²	ASTM D 4491	1/540,000 ft ²	110	95	75
UV Resistance, % Retained	ASTM D 4355 (after 500 hours)	per formulation	70	70	70
NOMINAL ROLL DIMENSIONS ⁽⁴⁾					
Roll Width, ft			15	15	15
Roll Length, ft	Double-Sided Composite		210	200	180
	Single-Sided Composite		240	230	220
Roll Area, ft ²	Double-Sided Composite		3,150	3,000	2,700
	Single-Sided Composite		3,600	3,450	3,300

NOTES:

- ⁽¹⁾ This is an index transmissivity value measured at stress = 15,000 psf; gradient = 0.1; time = 15 minutes; boundary conditions = between plates. Contact GSE for performance transmissivity value for use in design.
- ⁽²⁾ All geotextile properties are minimum average roll values except AOS which is maximum average roll value and UV resistance is typical value. Geonet core thickness is nominal value.
- ⁽³⁾ Component properties prior to lamination.
- ⁽⁴⁾ Roll widths and lengths have a tolerance of ±1%.

GSE is a leading manufacturer and marketer of geosynthetic lining products and services. We've built a reputation of reliability through our dedication to providing consistency of product, price and protection to our global customers.

Our commitment to innovation, our focus on quality and our industry expertise allow us the flexibility to collaborate with our clients to develop a custom, purpose-fit solution.



[DURABILITY RUNS DEEP] For more information on this product and others, please visit us at GSEworld.com, call 800.435.2008 or contact your local sales office.