

# PermaNet SL Geocomposite

GSE PermaNet SL (Super Load), a member of the GSE Advanced Drainage Geocomposite family, is manufactured with a GSE PermaNet SL geonet core heat-bonded on one or both sides with a nonwoven needlepunched geotextile. The patented unique round-strand structure of GSE PermaNet SL geonet provides superior compressive creep resistance and ensures continuous flow performance over a broad range of conditions and long durations. GSE PermaNet SL is manufactured through a one-step coextrusion process from prime quality high density polyethylene resins. This product is durable under rigorous environmental conditions and is ideal for extremely demanding applications.



**AT THE CORE:**  
The product's patented structure provides superior compressive creep resistance and ensures continuous flow performance in a broad range of conditions.

## Product Specifications

Tested Property	Test Method	Frequency	Minimum Average Roll Value <sup>(1)</sup>		
Geocomposite			6 oz/yd <sup>2</sup>	8 oz/yd <sup>2</sup>	10 oz/yd <sup>2</sup>
Transmissivity <sup>(2)</sup> , gal/min/ft (m <sup>2</sup> /sec) Double-Sided Composite Single-Sided Composite	ASTM D 4716	1/540,000 ft <sup>2</sup>	9.6 (2 x 10 <sup>-3</sup> ) 12.5 (2.6 x 10 <sup>-3</sup> )	9.6 (2 x 10 <sup>-3</sup> ) 12.5 (2.6 x 10 <sup>-3</sup> )	9.6 (2 x 10 <sup>-3</sup> ) 12.5 (2.6 x 10 <sup>-3</sup> )
Ply Adhesion, lb/in	ASTM D 7005	1/50,000 ft <sup>2</sup>	1.0	1.0	1.0
Geonet Core <sup>(3)</sup> - GSE PermaNet SL					
Transmissivity <sup>(2)</sup> , gal/min/ft (m <sup>2</sup> /sec)	ASTM D 4716	1/540,000 ft <sup>2</sup>	28.8 (6 x 10 <sup>-3</sup> )	28.8 (6 x 10 <sup>-3</sup> )	28.8 (6 x 10 <sup>-3</sup> )
Compressive Strength, lb/ft <sup>2</sup>	ASTM D 6364	1/540,000 ft <sup>2</sup>	40,000	40,000	40,000
Creep Reduction Factor	ASTM D 7406/7361	1/formulation	1.3@25,000 psf	1.3@25,000 psf	1.3@25,000 psf
Density, g/cm <sup>3</sup>	ASTM D 1505	1/50,000 ft <sup>2</sup>	0.94	0.94	0.94
Tensile Strength (MD), lb/in	ASTM D 5035/7179	1/50,000 ft <sup>2</sup>	100	100	100
Carbon Black Content, %	ASTM D 1603 <sup>(6)</sup> /4218	1/50,000 ft <sup>2</sup>	2.0	2.0	2.0
Geotextile <sup>(3,4)</sup>					
Mass per Unit Area, oz/yd <sup>2</sup>	ASTM D 5261	1/90,000 ft <sup>2</sup>	6	8	10
Grab Tensile, lb	ASTM D 4632	1/90,000 ft <sup>2</sup>	160	220	260
Puncture Strength, lb	ASTM D 4833	1/90,000 ft <sup>2</sup>	90	120	165
AOS, US Sieve, (mm)	ASTM D 4751	1/540,000 ft <sup>2</sup>	70 (0.212)	80 (0.180)	100 (0.150)
Permittivity, sec <sup>-1</sup>	ASTM D 4491	1/540,000 ft <sup>2</sup>	1.5	1.3	1.0
Flow Rate, gpm/ft <sup>2</sup>	ASTM D 4491	1/540,000 ft <sup>2</sup>	110	95	75
UV Resistance, % Retained	ASTM D 4355 (after 500 hours)	per formulation	70	70	70
NOMINAL ROLL DIMENSIONS					
Geonet Core Thickness, mil	ASTM D 5199	1/50,000 ft <sup>2</sup>	330	330	330
Roll Width <sup>(5)</sup> , ft			15	15	15
Roll Length <sup>(5)</sup> , ft	Double-Sided Composite Single-Sided Composite		150 150	140 150	130 140
Roll Area, ft <sup>2</sup>	Double-Sided Composite Single-Sided Composite		2,250 2,250	2,100 2,250	1,950 2,100

[Product specifications continued on back]



**AT THE CORE:**

The product's patented structure provides superior compressive creep resistance and ensures continuous flow performance in a broad range of conditions.

**Product Specifications [continued]**

NOTES:

- <sup>(1)</sup> AOS in mm is a maximum average roll value; UV resistance is a typical value.
- <sup>(2)</sup> Gradient of 0.1, normal load of 25,000 psf, water at 70° F between steel plates for 15 minutes. Contact GSE for performance transmissivity data for use in design.
- <sup>(3)</sup> Component properties prior to lamination.
- <sup>(4)</sup> Refer to geotextile product data sheet for additional specifications.
- <sup>(5)</sup> Roll widths and lengths have a tolerance of ±1%.
- <sup>(6)</sup> Modified.

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](http://GSEworld.com), call 800.435.2008 or contact your local sales office.