

# GSE GundSeal Geosynthetic Clay Liner (Textured HDPE)

## METRIC

GSE GundSeal geosynthetic clay liner (GCL) is a composite liner system that consists of a high quality sodium bentonite adhered to a textured high density polyethylene (HDPE) geomembrane with a spunbonded geotextile to protect the bentonite during installation. This one product composite liner system combines the low permeability of an HDPE geomembrane with the self-seaming characteristics of bentonite clay. The intimate contact of the bentonite with the geomembrane provides the best leak protection in the industry.



**AT THE CORE:**  
A composite liner system that combines the low permeability of an HDPE geomembrane with the self-seaming characteristics of bentonite clay to provide the best leak protection in the industry.

### Product Specifications

Tested Property	Test Method	Frequency	Minimum Average Value				
			0.5 mm	0.75 mm	1.0 mm	1.5 mm	2.0 mm
<b>Finished GCL Property</b>							
Bentonite Coating <sup>(1)</sup> , kg/m <sup>2</sup>	ASTM D 5993	1/4,000 m <sup>2</sup>	≥ 3.66				
Effective Hydraulic Conductivity, cm/sec	ASTM D 5887/E96	periodically	≤ 4 x 10 <sup>-12</sup>				
Bentonite Moisture Content	ASTM D 2216	1/4,000 m <sup>2</sup>	25% Typical				
GCL Tensile Strength <sup>(3)</sup> , N/mm	ASTM D 6768	1/20,000 m <sup>2</sup>	7	11	15	23	30
<b>Geomembrane Property<sup>(2)</sup></b>							
Thickness, mm Lowest individual reading	ASTM D 5199	1/10,000 m <sup>2</sup>	0.50 0.45	0.75 0.675	1.00 0.90	1.50 1.35	2.00 1.80
Density, g/cm <sup>3</sup>	ASTM D 1505	1/20,000 m <sup>2</sup>	0.94	0.94	0.94	0.94	0.94
Tensile Properties							
Tensile Break Strength, N/mm	ASTM D 6693	1/20,000 m <sup>2</sup>	4	8	10	16	21
Elongation at Break, %	ASTM D 6693	1/20,000 m <sup>2</sup>	100	100	100	100	100
Puncture Resistance, N	ASTM D 4833	1/20,000 m <sup>2</sup>	133	200	267	400	534
<b>Sodium Bentonite Property</b>							
Hydraulic Flux: Bentonite, m <sup>3</sup> /m <sup>2</sup> /sec	ASTM D 5887	periodically	≤ 1 x 10 <sup>-8</sup>				
Hydraulic Conductivity, cm/sec	ASTM D 5887	periodically	≤ 5 x 10 <sup>-9</sup>				
Swell Index, ml/2 g	ASTM D 5890	1/30,000 kg	≥ 24				
Fluid Loss, ml	ASTM D 5891	1/30,000 kg	≤ 18				
<b>TYPICAL ROLL DIMENSIONS</b>							
Roll Width <sup>(4)</sup> , m			5.3	5.3	5.3	5.3	5.3
Roll Length <sup>(4)</sup> , m			61	54	51	51	45
Roll Area, m <sup>2</sup>			323	286	270	270	238
Roll Weight, m			1,770	1,870	1,940	2,090	2,090

NOTES:

- <sup>(1)</sup>0% moisture content.
- <sup>(2)</sup>See specific GSE HD geomembrane product data sheet for additional information.
- <sup>(3)</sup>101 mm wide sample, 305 mm/min. Values are representative of the geomembrane tensile yield strength.
- <sup>(4)</sup>Roll lengths and widths 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 innovate 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.