

# GSE White Smooth Geomembrane

GSE White is a smooth high density polyethylene (HDPE) geomembrane manufactured with the highest quality resin specifically formulated for flexible geomembrane applications. GSE White has a UV-stabilized upper white(\*) surface that reflects light, improves damage detection, reduces wrinkles and subgrade desiccation. This product is used in applications that require enhanced quality assurance measures over standard geomembranes.



**AT THE CORE:**  
A coextruded, light reflective HDPE geomembrane with a thin white upper surface that improves detection of post-installation damage, and reduces heat build-up on the liner by reflecting solar energy.

## Product Specifications

Tested Property	Unit	Test Method	Values ( ** )		
Thickness <sup>(a)</sup>	mm	DIN EN ISO 9863-1	1.0	1.5	2.0
Density	g/cm <sup>3</sup>	DIN EN ISO 1183-1/A	≥ 0.94	≥ 0.94	≥ 0.94
Tensile Properties (each Direction)		DIN EN ISO 527-3 Type 5; 100 mm/min; lo = 50 min			
Stress at Yield	MPa		17 (16)	17 (16)	17 (16)
Elongation at Yield	%		10 (9)	11 (10)	11 (10)
Stress at Break	MPa		35 (26)	35 (26)	35 (26)
Elongation at Break	%		800 (700)	800 (700)	800 (700)
Tear Resistance	N	DIN ISO 34-1/B (a)	145 (130)	225 (210)	300 (280)
Puncture Resistance	N	DIN EN ISO 12236	2,850 (2,400)	4,150 (3,700)	5,450 (4,900)
Dimensional Stability (each Direction)	%	DIN 53377 (120°C/1 h)	± 2	± 2	± 2
Melt Flow Index <sup>(b)</sup>	g/10 min	DIN EN ISO 1133 (190°C / 5.0 kg) (190°C / 2.16 kg)	≤ 3.0 ≤ 1.0	≤ 3.0 ≤ 1.0	≤ 3.0 ≤ 1.0
Stress Crack Resistance (NCTL)	h	ASTM D 5397; Appendix	≥ 500	≥ 500	≥ 500
Oxidative Induction Time (OIT)	min	ASTM D 3895 (200°C; Pure O <sub>2</sub> ; 1 atm)	≥ 100	≥ 100	≥ 100
<b>Reference Property</b>					
Low Temperature Brittleness	°C	ASTM D 746	- 77	- 77	- 77
Carbon Black Content <sup>(c)</sup> (black Layer)	%	ASTM D 4218	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion (black Layer)	Category	ASTM D 5596	1/2 <sup>(d)</sup>	1/2 <sup>(d)</sup>	1/2 <sup>(d)</sup>
UV-Resistance <sup>(e)</sup>	%	ASTM D 7238	≥ 50	≥ 50	≥ 50
HP-OIT retained after 1,600 hours <sup>(f)</sup>		ASTM D 5885			
Roll Width (approx.) <sup>(g)</sup>	m	---	6.95		
Surface	---	---	double-sided smooth		

NOTES:

(\*): Due to the production process the brightness of the white colour may vary.

(\*\*): All values - unless otherwise noted - are nominal values. Values in brackets are minimum values within the 95% confidence interval.

(a): Tolerance ± 10% for the lowest individual reading.

(b): Standard test conditions: 190°C / 5.0 kg.

(c): GSE HD White may have an overall ash content greater than 3% due to the white layer.

(d): Dispersion only applies to near spherical agglomerates. 9 of 10 views shall be category 1 or 2. No more than 1 view from category 3.

(e): Test conditions: 20 hours UV-cycle at 75°C followed by 4 hours condensation at 60°C.

(f): UV Resistance is based on percent retained value regardless of the original High Pressure - OIT value.

(g): 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 other, please visit us at [GSEworld.com](http://GSEworld.com), call 49.40.767420 or contact your local sales office.

