



# GSE HD White - Product Data Sheet

GSE HD White is a coextruded, light reflective HDPE geomembrane, with a thin, white\* upper surface. This layer is part of the total thickness, the remainder of which is a carbon black stabilized primary layer. GSE HD White improves detection of post-installation damage and reduces heat buildup on the liner by reflecting solar energy. Reducing liner temperature leads to fewer wrinkles and less subgrade desiccation. Variations of this product include the opposite side being electrically conductive and one or both sides being textured. GSE HD White has outstanding chemical resistance, excellent mechanical properties, environmental stress crack resistance, dimensional stability and thermal aging characteristics. GSE HD White has excellent resistance to UV radiation and is suitable for exposed applications. These product specifications meet or exceed GRI-GM 13.

Tested Property	Unit	Test Method	Values (**)		
Thickness (a)	mm	DIN EN ISO 9863-1	1.0	1.5	2.0
Density	g/cm <sup>3</sup>	DIN 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/1h)	± 2	± 2	± 2
Melt Flow Index (b)	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	≥ 400	≥ 400	≥ 400
Oxidative Induction Time (OIT)	min	ASTM D 3895 (200°C; Pure O <sub>2</sub> ; 1 atm)	≥ 100	≥ 100	≥ 100
Reference Property	Unit	Test Method	Values (**)		
Low Temperature Brittleness	°C	ASTM D 746	- 77	- 77	- 77
Carbon Black Content (c) (black Layer)	%	ASTM D 1603	2.0 – 3.0	2.0 – 3.0	2.0 – 3.0
Carbon Black Dispersion (black Layer)	Cat.	ASTM D 5596	1 / 2 (d)	1 / 2 (d)	1 / 2 (d)
Roll Width (approx.) (e)	m	---	6.95		
Surface	---	---	double-sided smooth		

\* 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%.

(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): Roll widths and lengths have a tolerance of ± 1%.

GSE HD White is produced at GSE Rechlin plant, Germany.

*This information is provided for reference purposes only and is not intended as a warranty or guarantee. GSE assumes no liability in connection with the use of this information. Please check with GSE for current, standard minimum quality assurance procedures. This information is subject to change without prior notice. Please contact GSE for updated information.*



1213-CPD-3879

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09-07-17-HDB-White-10/20-ISO-E

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