



GSE HD Colortex

(RAL*6005 moss-green)
Product Data Sheet

GSE HD Colortex is a high quality, high density polyethylene (HDPE) geomembrane that consists of two layers: a black primary layer and a colored textured surface^(*). The polyethylene resin is designed specifically for flexible and durable geomembrane applications. The primary layer contains approximately 97.5% polyethylene, 2.5% carbon black and trace amounts of antioxidants and heat stabilizers. GSE's patented texturing process is the only manufacturing method that provides a textured geomembrane without significant reduction of any of the physical properties of the smooth product. GSE HD Colortex has outstanding chemical resistance, mechanical properties, environmental stress crack resistance, dimensional stability and thermal aging characteristics. GSE HD Colortex has excellent resistance to UV radiation and is providing exposed lining systems, which are well integrated into the environment. This product allows the design of projects with steeper slopes since frictional characteristics are enhanced and the smooth edges (width approx. 15 cm) allow for an easier, quicker welding process according to the state of the art. Other colors (RAL-based) are available upon request. The color stability is variable in time dependent on the selected color.

Tested Property	Unit	Test Method	Values ^(*)		
Thickness ^(a)	mm	DIN EN ISO 9863-1	1.0	1.5	2.0
Density	g/cm ³	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 mm)			
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)
Carbon Black Content	%	ASTM D 1603	2.0 – 3.0	2.0 – 3.0	2.0 – 3.0
Carbon Black Dispersion	Category	ASTM D 5596	1 / 2 ^(b)	1 / 2 ^(b)	1 / 2 ^(b)
Dimensional Stability (each Direction)	%	DIN 53377 (120 °C/1h)	± 2	± 2	± 2
Melt Flow Index ^(c)	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
Asperity height (each side) (Minimum Average)	mm	GRI-GM 12	0.25 ^(d)	0.25 ^(d)	0.25 ^(d)
Oxidative Induction Time (OIT)	min	ASTM D 3895 (200°C; Pure O ₂ ; 1 atm)	≥ 100	≥ 100	≥ 100
Reference Property	Unit	Test Method	Values ^(*)		
Low Temperature Brittleness	°C	ASTM D 746	- 77	- 77	- 77
UV Resistance ^(e) HP-OIT retained after 1,600 hours ^(f)	%	GRI-GM 11 ASTM D 5885	≥ 50	≥ 50	≥ 50
Roll Width ^(g)	m	---	6.95	6.95 / 7.5	
Surface	---	---	single-sided or double-sided textured		

* RAL-System defining color shades, giving them definitive numbers and names.

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

- (a): Tolerance ± 10%
- (b): 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.
- (c): Standard test conditions: 190 °C / 5.0 kg.
- (d): 8 out of 10 readings must be ≥ 0.18 mm and lowest individual reading must be ≥ 0.13 mm.
- (e): Test conditions: 20 hours UV cycle at 75°C followed by 4 hours condensation at 60°C; total: 1,600 hours.
- (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 HD Colortex is produced at GSE Rechlin plant, Germany.

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