

GSE High Temperature Geomembrane

GSE High Temperature Geomembrane is a specially engineered HDPE geomembrane that is able to retain its mechanical and physical properties when exposed to temperatures up to 212°F. It is an innovative formulation that takes advantage of the high temperature performance of revolutionary resins and the thermal stability of GSE's proprietary stabilization package. It provides enhanced mechanical performance and improved chemical stability at elevated temperatures in addition to the traditional properties of polyethylene geomembranes.



AT THE CORE:
An HDPE geomembrane used in applications that operate at sustained temperatures up to 212°F.

Product Specifications

Tested Property	Test Method	Frequency	Minimum Average Value ⁽¹⁾			
			60 mil	80 mil	100 mil	120 mil
Thickness, mil	ASTM D 5199	every roll	60	80	100	120
Density, g/cm ³	ASTM D 1505	200,000 lb	≥ 0.940	≥ 0.940	≥ 0.940	≥ 0.940
Tensile Properties (each direction) Strength at Break, lb/in-width Strength at Yield, lb/in-width Elongation at Break, % Elongation at Yield, %	ASTM D 6693, Type IV Dumbbell, 2 ipm G.L. 2.0 in G.L. 1.3 in	20,000 lb	228 125 600 12	302 171 600 12	382 211 600 12	457 257 600 12
Tear Resistance, lb	ASTM D 1004	45,000 lb	43	56	71	84
Puncture Resistance, lb	ASTM D 4833	45,000 lb	108	144	180	216
Carbon Black Content, % (Range)	ASTM D 4218	20,000 lb	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D 5596	45,000 lb	Note ⁽²⁾	Note ⁽²⁾	Note ⁽²⁾	Note ⁽²⁾
Oxidative Induction Time, mins	ASTM D 3895, 392°F; O ₂ , 1 atm	200,000 lb	≥ 160	≥ 160	≥ 160	≥ 160
High Pressure Oxidation Induction Time (HPOIT), mins	ASTM D 5885, 302°F; O ₂ , 3.4 Mpa	per formulation	≥ 800	≥ 800	≥ 800	≥ 800
Reference Property						
Tensile Properties @ 212°F (each direction) Strength at Yield, psi Elastic Modulus, psi	ISO 527, 1/2 ASTM D 6693, Type IV mod	per formulation	≥ 725 ≥ 5500	≥ 725 ≥ 5500	≥ 725 ≥ 5500	≥ 725 ≥ 5500
Stress Crack Resistance ⁽³⁾ @ 176°F (SP-NCTL), h	ASTM D 5397 (modified)	per formulation	≥ 500	≥ 500	≥ 500	≥ 500
Oven Aging HPOIT retained after 6 mos.	ASTM D 5721/5884	per formulation	≥ 90%	≥ 90%	≥ 90%	≥ 90%
212°F Oven Aging HPOIT ⁽⁴⁾ retained after 90 days	ASTM D 5721 (modified)/5885	per formulation	≥ 90%	≥ 90%	≥ 90%	≥ 90%
UV resistance HPOIT retained after 1600 hours	ASTM D 7238/5885	per formulation	≥ 80%	≥ 80%	≥ 80%	≥ 80%
Typical Roll Dimensions						
Roll Length ⁽⁵⁾ , ft			427	328	262	230
Roll Width ⁽⁵⁾ , ft			24.6	24.6	24.6	24.6
Roll Area, ft ²			10,495	8,073	6,458	5,651

NOTES:

- ⁽¹⁾All GSE geomembranes have dimensional stability of ±2% when tested according to ASTM D 1204 and LTB of <-106°F when tested according to ASTM D 746.
- ⁽²⁾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.
- ⁽³⁾NCTL is tested according to ASTM D5397, but modified to 176°F and 3.4 Mpa (500 psi) stress.
- ⁽⁴⁾GSE High Temperature Geomembrane is tested for HPOIT retention after incubation in elevated oven temperatures (212°F) for 90 days.
- ⁽⁵⁾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 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, call 800.435.2008 or contact your local sales office.