PRODUCT DESCRIPTION SHEET

SOLMAX

GSE HD Smooth Geomembrane

High Density Polyethylene Geomembranes

The **GSE** HD Liner Series is a high-density polyethylene (HDPE) geomembrane that exceeds the requirements of the GRI-GM13 specification standard for HDPE geomembrane liners. HDPE provides proven chemical resistance, durability and low permeability. Billions of square feet of **GSE** HD Liners have been installed around the world in a wide range of containment applications.

HDPE is resistant to a variety of harsh chemicals, making it a great choice for applications such as tailing and heap leach facilities, hazardous waste landfills, and containment facilities.

Applications

- Solid and Liquid Waste Containment
- Mining Ponds and Heap Leach Pads
- Coal Combustion Residual Containment
- Pond Lining for Various Applications

Primary functions

- Containment
- Barrier

Proven Performance

- High UV Resistance
- Exceptional Chemical Resistance
- Excellent Stress Crack Resistance
- Lowest Permeability Among Polymers
- Excellent weldability under a variety of conditions
- Excellent long term repairability from mechanical damage
- Available in a variety of colors

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The GSE HD Liner Series comes in standard black and is available in a variety of other colors, including green for more aesthetic landfill caps and white for a solar reflective upper surface. White geomembrane can significantly reduce the amount of heat absorbed by the liner during installation, thus reducing wrinkling of the geomembrane due to thermal contraction and expansion. Lighter color membranes also improve the ability to visually observe scratches, gouges and defects at the surface.

PROPERTY	TEST METHOD	PRODUCT				
		30 mil (0.75mm)	40 mil (1.00 mm)	60 mil (1.50 mm)	80 mil (2.00 mm)	100 mil (2.50 mm)
Thickness - min. avg., mils (mm)	ASTM D5199	30 (0.75)	40 (1.00)	60 (1.50)	80 (2.00)	100 (2.50)
Thickness - min., mils (mm)	ASTM D5199	27 (0.68)	36 (0.90)	54 (1.35)	72 (1.80)	90 (2.25)
Density, g/cm^3	ASTM D792	≥ 0.94	≥ 0.94	≥ 0.94	≥ 0.94	≥ 0.94
Tensile Properties (min. avg.)	ASTM D6693					
Strength at Break, ppi (kN/m)		122 (21)	162 (28)	243 (43)	324 (31)	405 (71)
Strength at Yeild, lb/in (kN/m)		66 (11.6)	88 (15)	132 (23)	176 (31)	220 (39)
Elongation at Break, %		700	700	700	700	700
Elongation at Yeild, %		123	13	13	13	13
Tear Resistance - min. avg., lbf (N)	ASTM D1004	21 (93)	28 (125)	42 (187)	56 (265)	70 (311)
Puncture Resistance - min. avg., lbf (N)	ASTM D4833	60 (267)	80 (356)	120 (534)	156 (675)	180 (800)
Carbon Black Content, %	ASTM D4218	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0
Carbon Black Dispersion, Category	ASTM D 5596	Cat. 1 & Cat. 2	Cat. 1 & Cat. 2	Cat. 1 & Cat. 2	Cat. 1 & Cat. 2	Cat. 1 & Cat. 2
Stress Crack Resistance (SP-NCTL), hr	ASTM D 5397	500	500	500	500	500
Oxidative Induction Time, - Std. (min. avg.), mins	ASTM D8117	100	100	100	100	100
Available Color Options	Black, White and Green*					

TYPICAL ROLL DIMENSIONS						
Roll Length, ft (m)		1,120 (341.4)	870 (265.2)	560 (170.7)	430 (121.9)	340 (103.6)
Roll Width, ft (m)		22.5 (6.86)	22.5 (6.86)	22.5 (6.86)	22.5 (6.86)	22.5 (6.86)
Roll Area, ft^2 (m^2)		25,200 (2342.0)	19,575 (1819.3)	12,600 (1171.0)	9,6757(836.2)	7,650 (710.7)

NOTES:
1. The values listed in the tables of this specification are to be interpreted according to the designated test method; they are neither minimum average roll values (MARV) nor maximum average roll values (MaxARV).
2. The information contained herein is provided for reference purposes only and is not intended as a warranty or guarantee. Final determination of suitability for use contemplated is the sole responsibility of the user. SOLMAX assumes no liability in connection with the use of this information.
* Additional colors available upon request

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