

Black/White Conductive Smooth Liner®

HIGH DENSITY POLYETHYLENE

AGRU America's smooth geomembranes are manufactured on state-of-the-art manufacturing equipment using the flat die calender manufacturing process, a method that produces a more consistent core thickness than other processes, such as the blown film extrusion process. AGRU uses only the highest-grade HDPE and LLDPE resins manufactured in North America.

AGRU America's geomembranes are certified to pass Low Temp. Brittleness via ASTM D746 (-80°C), Dimensional Stability via ASTM D1204 ($\pm 2\%$ @ 100°C). Oven Aging and UV Resistance are tested per GRI GM 13. These product specifications meet or exceed GRI's GM13.

PRODUCT DATA

Property	Test Method	Frequency	Minimum Average Values			
Thickness (minimum avg), mil (mm)	ASTM D5199	Per Roll	40 (1.0)	60 (1.5)	80 (2.0)	100 (2.5)
Thickness (minimum), mil (mm)			36 (0.9)	54 (1.35)	72 (1.8)	90 (2.25)
Density, g/cc, minimum	ASTM D792, Method B	200,000 lb	0.94	0.94	0.94	0.94
Tensile Properties (both directions)	ASTM D6693, Type IV 2 in/minute	20,000 lb	88 (15.4)	132 (23.1)	176 (30.8)	220 (38.5)
Strength @ Yield, lb/in width (N/mm)						
Elongation @ Yield, % (GL=1.3in)						
Strength @ Break, lb/in width (N/mm)						
Elongation @ Break, % (GL=2.0in)			700	700	700	700
Tear Resistance, lbs (N)	ASTM D1004	45,000 lb	30 (133)	45 (200)	60 (267)	72 (320)
Puncture Resistance, lbs (N)	ASTM D4833	45,000 lb	80 (356)	120 (534)	160 (712)	190 (845)
Carbon Black Content, % (range) ¹	ASTM D4218	20,000 lb	2 - 3	2 - 3	2 - 3	2 - 3
Carbon Black Dispersion (Category)	ASTM D5596	45,000 lb	Only near spherical agglomerates: 10 views Cat. 1 or 2			
Stress Crack Resistance (SP-NCTL), hrs.	ASTM D5397 Appendix	200,000 lb	500	500	500	500
Oxidative Induction Time, minutes	ASTM D3895, 200°C, 1 atm O ₂	200,000 lb	≥140	≥140	≥140	≥140

¹Ash content may be ≥3 due to white and conductive layers.

SUPPLY INFORMATION (STANDARD ROLL DIMENSIONS)

THICKNESS		WIDTH		LENGTH		AREA (APPROX.)	
mil	mm	ft	m	ft	m	ft ²	m ²
40	1.0	23	7	900	274	20,700	1,923
60	1.5	23	7	600	183	13,800	1,282
80	2.0	23	7	455	139	10,465	972
100	2.5	23	7	365	111	8,395	780

Note:

Average roll weight is 4,200 lbs (1,905 kg). All rolls are supplied with two slings. Rolls are wound on 6" core. Special length available upon request. Roll length and width have a tolerance of $\pm 1\%$. The weight values may change due to project specifications (i.e. absolute minimum thickness or special length) or shipping requirements (i.e. international containerized shipments).

All information, recommendations and suggestions appearing in this literature concerning the use of our products are based upon tests and data believed to be reliable; however, it is the users responsibility to determine the suitability for their own use of the products described herein. Since the actual use by others is beyond our control, no guarantee or warranty of any kind, expressed or implied, is made by AGRU America as to the effects of such use or the results to be obtained, nor does AGRU America assume any liability in connection herewith. Any statement made herein may not be absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations. Nothing herein is to be construed as permission or as a recommendation to infringe any patent.

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