

Smooth Liner®

HDPE & LLDPE

Tough and flexible, HDPE and LLDPE Smooth Liner is the material of choice for containment applications and landfill caps.

The chemically resistant material provides consistent thickness and delivers optimum weld speed and weld quality in the field. Agru America's LLDPE and HDPE Liner meet or exceed GRI GM test values and requirements established by the environmental waste containment and civil engineering community.

All Smooth Liner material is rolled on 23' wide plastic cores to ensure ease of installation, eliminating the problem of collapsed cores.

High Density Polyethylene Smooth Liner®

Property	Test Method	Frequency	Minimum Average Values				
Thickness (minimum avg), mil (mm)	ASTM D5199	Per Roll	30 (075)	40 (10)	60 (15)	80 (20)	100 (25)
Thickness (minimum), mil (mm)			27 (068)	36 (09)	54 (135)	72 (18)	90 (225)
Density, g/cc, minimum	ASTM D792, Method B	200,000 lb	94	94	94	94	94
Tensile Properties (both directions)	ASTM D6693, Type IV						
Strength @ Yield, lb/in width (N/mm)	2 in/minute		66 (116)	88 (154)	132 (231)	176 (308)	220 (385)
Elongation @ Yield, % (GL=13in)		20,000 lb	13	13	13	13	13
Strength @ Break, lb/in width (N/mm)			120 (21)	160 (28)	240 (42)	320 (56)	400 (70)
Elongation @ Break, % (GL=20in)			700	700	700	700	700
Tear Resistance, lbs (N)	ASTM D1004	45,000 lb	23 (102)	30 (133)	45 (200)	60 (267)	72 (320)
Puncture Resistance, lbs (N)	ASTM D4833	45,000 lb	60 (267)	80 (356)	120 (534)	160 (712)	190 (845)
Carbon Black Content, % (range)	ASTM D4218	20,000 lb	2 - 3	2 - 3	2 - 3	2 - 3	2 - 3
Carbon Black Dispersion (Category)	ASTM D5596	45,000 lb	Only near spherical agglomerates: 10 views in Cat 1 or 2				
Stress Crack Resistance (SP-NCTL), hrs	ASTM D5397 Appendix	200,000 lb	500	500	500	500	500
Oxidative Induction Time, minutes	ASTM D3895, 200°C, 1 atm O2	200,000 lb	≥140	≥140	≥140	≥140	≥140

Benefits of HDPE Agru Smooth Liner®

- Thickness range 30 – 100 mil (0.72 – 2.5 mm)
- Meets or exceeds GRI GM 13
- 20+ year proven track record



Low Density Polyethylene Smooth Liner®

Property	Test Method	Frequency	Minimum Average Values			
Thickness (minimum avg), mil (mm)	ASTM D5199	Per Roll	40 (10)	60 (15)	80 (20)	100 (25)
Thickness (minimum), mil (mm)			36 (09)	54 (135)	72 (18)	90 (225)
Density, g/cc, minimum	ASTM D792, Method B	200,000 lb	939	939	939	939
Tensile Properties (both directions)	ASTM D6693, Type IV					
Strength @ Yield, lb/in width (N/mm)	2 in/minute		160 (28)	240 (42)	320 (56)	400 (70)
Elongation @ Yield, % (GL=13in)		20,000 lb	800	800	800	800
Tear Resistance, lbs (N)	ASTM D1004	45,000 lb	25 (111)	37 (165)	48 (214)	62 (276)
Puncture Resistance, lbs (N)	ASTM D4833	45,000 lb	60 (267)	90 (400)	120 (534)	150 (667)
Carbon Black Content, % (range)	ASTM D4218	20,000 lb	2 - 3	2 - 3	2 - 3	2 - 3
Carbon Black Dispersion (Category)	ASTM D5596	45,000 lb	Cat 1 or 2			
Oxidative Induction Time, minutes	ASTM D3895, 200°C, 1 atm O2	200,000 lb	≥140	≥140	≥140	≥140

Benefits of LLDPE Agru Smooth Liner®

- Thickness range 40 – 100 mil (1.0 – 2.5mm)
- Meets or exceeds GRI GM 17
- Tough but with more flexibility than HDPE

Smooth Liner® Supply Information (Standard Roll Dimensions)

Thickness		Width		Length		Area (approx)	
mil	mm	ft	m	ft	m	ft2	m2
30	0.75	23	7	1175	358	27,025	2,511
40	1	23	7	900	274	20,700	1,923
60	15	23	7	600	183	13,800	1,282
80	20	23	7	455	139	10,465	972
100	25	23	7	365	111	8,395	780