

ENVIRO LINER® 6000 - GEOMEMBRANE

With its exceptional flexibility and endurance properties, Layfield's Enviro Liner® (EL) brand of geomembranes has been a trusted performer in our portfolio for many years. Available in four unique formulations, this series of geomembranes offers solutions for a wide range of containment applications.

The flagship Enviro Liner® 6000 incorporates the latest ultraviolet/anti-oxidant (UV/AO) stabilization technology, providing a new level of UV resistance and endurance properties. It is designed for long-term exposed applications and has excellent chemical resistance, making it one of the most durable geomembranes on the market.

April 2023		Enviro Liner® 6000				
Style	ASTM	Enviro Liner® 6030	Enviro Liner® 6040	Enviro Liner® 6050	Enviro Liner® 6060	Enviro Liner® 6080
Thickness (min. Avg)	D5199	30 mil 0.75 mm	40 mil 1.0 mm	50 mil 1.25 mm	60 mil 1.5 mm	80 mil 2.0 mm
Strength at Break (min. Avg)	D6693	141 ppi 25 N/mm	180 ppi 31 N/mm	220 ppi 38 N/mm	255 ppi 44 N/mm	304 ppi 53 N/mm
Elongation at Break (min. Avg) Gauge Length- 2"(50 mm)	D6693	800%	800%	800%	800%	800%
Trapezoidal Tear Resistance (typical)	D751	63 lbs 280 N	90 lbs 400 N	108 lbs 480 N	132 lbs 590 N	176 lbs 780 N
Puncture Resistance (min. avg)	D4833	53 lbs 236 N	67 lbs 298 N	75 lbs 333 N	90 lbs 4000 N	112 lbs 500 N
Critical Cone Height ¹	D5514	2" 50 mm	2" 50 mm	2" 50 mm	2" 50 mm	-
Axi-Symmetric Break Strain ¹	D5617	50%	50%	80%	80%	50%
High Pressure Oxidative Induction Time (HPOIT)	D5885	>2000 minutes				
Oxidative Induction Time (OIT)	D3895	>200 minutes				
UV Resistance ¹ % HPOIT Retained after 1600 hrs	GRI GM13/1 7	>80%				
UV Resistance, 40,000 hrs Strength Retained (Black) ^{1,2}	D4329	>90%				
Brine Resistance ¹ HPOIT after 1000 hrs at 90°C (194°F)	D1693 D5885	>90%				

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Oven Aging at 85°C ¹ % OIT retained after 90 days % HPOIT retained after 90 days	D5271 D3895/ D5885	>70% >90%
Water Vapor Transmission ^{1,2}	F1249	3x10 ⁻¹³ cm/sec
Solvent Vapor Permeability ^{1,3}	D814	Fuel C (Toluene/Octane) < 4 g/m ² ·hr Diesel Fuel < 0.4 g/m ² ·hr
Methane Permeability ^{1,4}	D1434	2.40 x 10 ⁻⁵ m ³ /m ² ·day ·atm
Coefficient of Expansion, ^{1,3}	D696	1.4x10 ⁻⁴ m/m/deg C
Notes: ¹ Performance Properties once per formulation (as tested values), ² Tested on 30 mil, ³ Tested on 40 mil, ⁴ Tested on 60 mil		

April 2023		Enviro Liner® 6000 Minimum Shop Seam Strengths				
Style	ASTM D6392	Enviro Liner® 6030	Enviro Liner® 6040	Enviro Liner® 6050	Enviro Liner® 6060	Enviro Liner® 6080
Heat Bonded Seam Strength	25.4 mm (1") Strip	45 ppi 7.8 N/mm	60 ppi 10.5 N/mm	75 ppi 13.1 N/mm	Not Shop Fabricated	Not Shop Fabricated
Peel Adhesion Strength (Wedge Welded)	25.4 mm (1") Strip	38 ppi 6.7 N/mm	50 ppi 8.8 N/mm	63 ppi 11.0 N/mm	Not Shop Fabricated	Not Shop Fabricated

April 2023		Enviro Liner® 6000 Minimum Field Seam Strengths				
Style	ASTM D6392	Enviro Liner® 6030	Enviro Liner® 6040	Enviro Liner® 6050	Enviro Liner® 6060	Enviro Liner® 6080
Heat Bonded Seam Strength <i>Test Temp 23°C, 73°F</i>	25.4 mm (1") Strip	45 ppi 7.8 N/mm	60 ppi 10.5 N/mm	75 ppi 13.1 N/mm	90 ppi 15.7 N/mm	120 ppi 21.0 N/mm
Peel Adhesion Strength (Wedge Welded)	25.4 mm (1") Strip	34 ppi 6.0 N/mm	44 ppi 7.7 N/mm	57 ppi 10.0 N/mm	66 ppi 11.5 N/mm	88 ppi 15.4 N/mm

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INSTALLATION

Layfield's Enviro Liner® 6000 geomembrane is supplied in prefabricated panels with a thickness of 50 mil (1.25 mm) or less. These fabricated panels are deployed on-site, often covering a small project in a single piece. Custom rectangular panels, round tank liners, and other prefabricated shapes are available. On larger projects or with the use of thicker materials, skilled Layfield welding technicians can provide full installation services. Enviro Liner® uses wedge and extrusion welding equipment to join panels in the field. On substantial projects, Enviro Liner® panels can be economically prefabricated up to 85 ft wide on our GeoFab5x welding unit. Installation guide specifications are available on our web site. After installation, if small welds or repairs are needed, there is a special Enviro Liner® welding gun available. This an inexpensive tool that can be used to make minor repairs until a crew is available.

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