

LINEAR LOW-DENSITY POLYETHYLENE (LLDPE) – TEXTURED GEOMEMBRANE

Linear Low-Density Polyethylene (LLDPE) is a widely used industry-standard geomembrane for various applications. With more flexibility than High-Density Polyethylene (HDPE), it is often used when flexibility is a design priority over the wider range of chemical resistance and rigidity offered by HDPE. LLDPE offers a more economical solution for a broad range of containment needs, including oil and gas sites, wastewater systems, and soil remediation. It is commonly used as pond liners, above-ground storage tank liners, and components in soil caps and closures.

Textured LLDPE geomembrane is available with texturing on one or both sides, providing excellent interface friction properties in combination with outstanding longevity.

November 2025				
LLDPE - Textured Geomembrane				
Rev	ASTM	LLDPE - (single-sided) Textured 30 mil	LLDPE - (single/double) Textured 40 mil	LLDPE (single/double) Textured – 60 mil
Thickness (minimum average)	D5199	28.5 mil 0.713 mm	38 mil 0.95 mm	57 mil 1.46 mm
Asperity Height	D7466	10 mil ¹ 0.25 mm	16 mil 0.40 mm	16 mil 0.40 mm
Density (maximum)	D792	≤ 0.939 g/ml	≤ 0.939 g/ml	≤ 0.939 g/ml
Tensile Strength at Break	D6693	45 ppi 9 N/mm	60 ppi 11 N/mm	90 ppi 16 N/mm
Elongation at Break	D6693	250%	250%	250%
Tear Resistance	D1004	16 lbs 70 N	22 lbs 100 N	33 lbs 150 N
Puncture Resistance	D4833	33 lbs 150 N	44 lbs 200 N	66 lbs 300 N
Carbon Black Content	D6370	≥ 2.0%	≥ 2.0%	≥ 2.0%
Carbon Black Dispersion	D5596	Cat 1 or 2	Cat 1 or 2	Cat 1 or 2
UV Resistance HPOIT retained after 1600 hrs	D7238 D5885	35%	35%	35%

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LINEAR LOW-DENSITY POLYETHYLENE (LLDPE) – TEXTURED GEOMEMBRANE

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LLDPE - Textured Geomembrane Shop Seam Strengths

Style	ASTM D6392	LLDPE (single-sided) 30 mil	LLDPE - (single/double) Textured 40 mil	LLDPE - (single/double) Textured 60 mil
Heat Bonded Seam Strength	25.4 mm (1") Strip	45 ppi 7.7 N/mm	60 ppi 10.3 N/mm	Not shop fabricated
Peel Adhesion Strength (Wedge Welded)	25.4 mm (1") Strip	38 ppi 6.5 N/mm	50 ppi 8.6 N/mm	Not shop fabricated

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LLDPE - Textured Geomembrane Field Seam Strengths

Style	ASTM D6392	LLDPE (single-sided) 30 mil	LLDPE - (single/double) Textured 40 mil	LLDPE - (single/double) Textured 60 mil
Heat Bonded Seam Strength	25.4 mm (1") Strip	45 ppi 7.7 N/mm	60 ppi 10.3 N/mm	90 ppi 15.7 N/mm
Peel Adhesion Strength (Wedge Welded)	25.4 mm (1") Strip	34 ppi 5.9 N/mm	44 ppi 8.7 N/mm	66 ppi 11.6 N/mm

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