



Bowman
Construction
Supply Inc.

PVC GEOMEMBRANE

Product Description

PVC geomembrane liners are flexible, synthetic barriers engineered for reliable containment in diverse civil and environmental applications. Their inherent pliability allows for easy installation and conformance to complex subgrades, while their robust case history and long-term performance have been proven in demanding environments. PVC liners provide a cost-effective and durable solution for preventing fluid migration in landfills, ponds, canals, and secondary containment systems. Seaming options include thermal or dielectric, while remaining contractor friendly with ability to be chemically seamed with adhesives.

Common Applications

- Landfill cells and caps
- Irrigation ponds, reservoir lining, dam face waterproofing
- Agricultural/Municipal water and waste storage/treatment
- Recreational ponds, water features, decorative ponds, golf course ponds, swimming/aquatics centers
- Stormwater management and flood control structures, detention ponds, swales, channels, underground detention, canals, rain gardens, bio-retention and pre-treatment,
- Structure waterproofing, foundation and perimeter drain waterproofing, vapor barrier





Industrial Grade PVC Geomembrane Material Specifications

Certified Properties ^{6,7}	ASTM	PVC 30	PVC 40	PVC 50	PVC 60
Average Thickness mil [mm] ^{6,7,8,9}	D-5199 Procedure B	30 ± 1.5 mil [0.76 ± 0.04 mm]	40 ± 2 mil [1.02 ± 0.05 mm]	50 ± 2.5 mil [1.27 ± 0.06 mm]	60 ± 3 mil [1.52 ± 0.08 mm]
Tensile Properties ^{6,7,8} Tensile Force at Break	D-882 Minimum (MD & TD)	73 lbs/inch 12.8 kN/m	97 lbs/inch 17.0 kN/m	116 lbs/inch 20.3 kN/m	137 lbs/inch 24.0 kN/m
Elongation at Break		380%	430%	430%	450%
Tensile Force at 100% Elongation		30 lbs/inch 5.4 kN/m	40 lbs/inch 7.2 kN/m	50 lbs/inch 9.0 kN/m	60 lbs/inch 10.8 kN/m
Average Modulus at Break		2,400 lbs/in ² 16,470 kN/m ²	2,400 lbs/in ² 16,470 kN/m ²	2,400 lbs/in ² 16,470 kN/m ²	2,400 lbs/in ² 16,470 kN/m ²
Average Modulus at 100% Elongation		1,000 lbs/in ² 6,895 kN/m ²	1,000 lbs/in ² 6,895 kN/m ²	1,000 lbs/in ² 6,895 kN/m ²	1,000 lbs/in ² 6,895 kN/m ²
Tear Strength ^{6,7,8}		D-1004 Minimum (MD & TD)	8.5 lbs 35 N	10.0 lbs 44 N	13.0 lbs 58 N
Dimensional Stability ^{6,7,10}	D-1204 Maximum Change (MD & TD)	3%	3%	3%	3%
Low Temperature Impact Test ^{6,7,11,12}	D-1790 More than 50% of specimens pass	-20F° -29C°	-20F° -29C°	-20F° -29C°	-20F° -29C°
Camber or layflat of manufactured roll, maximum allowable deviation between two (2) readings ^{6,7,8,23}	FGI Circumference Test – see Appendix C	Maximum Circumference Difference along roll width < 25 mm (1.0 in.) & Maximum Bowing Difference < 11 mm (0.43 in.)			



Industrial Grade PVC Geomembrane Material Specifications Continued

Index Properties ^{7,13}	ASTM	PVC 30	PVC 40	PVC 50	PVC 60
Specific Gravity ^{7,13}	D-792 Typical	1.2 g/cc	1.2 g/cc	1.2 g/cc	1.2 g/cc
Water Extraction Percent Loss (maximum) ^{7,13}	D-1239 Maximum Loss	0.25%	0.30%	0.30%	0.30%
Weighted Average Blended Phthalate Based Plasticizer Molecular Weight ^{7,13,14,15,16,20}	D-2124 Minimum	400 grams/mol	400 grams/mol	400 grams/mol	400 grams/mol
Volatile Percent Loss ^{7,13}	D-1203 Maximum	1.5%	1.5%	1.5%	1.5%
Soil Burial ^{7,13,17,22} Tensile Force at Break (95%), Elongation at Break (80%), and Tensile Force at 100% Elongation (80%)	G160 Minimum Values	69.4 lbs/inch 12.2 kN/m 304 24.0 lbs/inch 4.3 kN/m	92.2 lbs/inch 16.2 kN/m 344 32.0 lbs/in 5.8 kN/m	110.2 lbs/inch 19.3 kN/m 344 40.0 lbs/in 7.2 kN/m	130.2 lbs/inch 22.8 kN/m 360 48.0 lbs/in 8.6 kN/m
Hydrostatic Resistance ^{7,13}	D-751 Minimum	100 psi 690 kPa	120 psi 830 kPa	150 psi 1030 kPa	180 psi 1240 kPa
Color Deviation within a manufactured lot ^{7,13,18,21}	E1164 & E308	Delta E less than 2.0	Delta E less than 2.0	Delta E less than 2.0	Delta E less than 2.0
Film Gloss, maximum gloss at 60 degrees angle for smooth and embossed sides ^{7,13}	D2457 Maximum	50 (calendered side) / 15 (embossed side)	50 (calendered side) / 15 (embossed side)	50 (calendered side) / 15 (embossed side)	50 (calendered side) / 15 (embossed side)
Shore Hardness ^{7,13,19}	D2240 Durometer A	Delta ± 3	Delta ± 3	Delta ± 3	Delta ± 3
Seam Strengths ⁸	ASTM	PVC 30	PVC 40	PVC 50	PVC 60
Seam Shear Strength ⁸	D-7408 Minimum	58.4 lbs/in 10.0kN/m	77.6 lbs/in 14.0 kN/m	92.8 lbs/in 16.0 kN/m	109.6 lbs/in 20.0 kN/m
Seam Peel Strength at 2 in./min ⁸	D-7408 Minimum	15.0 lbs/in 2.6 kN/m	15.0 lbs/in 2.6 kN/m	15.0 lbs/in 2.6 kN/m	15.0 lbs/in 2.6 kN/m
Seam Peel Strength at 20 in./min ⁸	D-7408 Minimum	18.0 lbs/in 3.1 kN/m	18.0 lbs/in 3.1 kN/m	18.0 lbs/in 3.1 kN/m	18.0 lbs/in 3.1 kN/m

The FGI PVC Specification (1 September 2019) was developed with the cooperation of FGI member companies to meet the stringent requirements of today's geosynthetic applications. To assure this level of quality.

