

PVC GEOMEMBRANES

PVC Geomembranes - (Poly Vinyl Chloride)

Poly Vinyl Chloride (PVC) is the most commonly specified pre-fabricated lining material in the industry. Manufactured by a calendaring or extrusion process, it is a highly flexible, non-reinforced, cost-effective, waterproofing geomembrane liner with many uses and advantages for the user.

PVC has high puncture strength and excellent abrasion resistance. It is resistant to a number of industrial chemicals.

Because of its high flexibility, PVC liners readily conform to subgrade contours and offer excellent interface friction without being textured.



Common Applications

- Wastewater Lagoons
- Irrigation Reservoirs & Canals
- Landfill/Mine Reclamation Caps
- Golf Course Ponds
- Fish Ponds and Lakes
- Decorative Water Features
- Oilfield Mud Pits
- Potable Water Storage
- Secondary Containment

Material Advantages

- Custom factory fabrication up to 40,000 square feet for 80% fewer field seams and faster installations.
- Welds by heat fusion machinery or chemical adhesives for ease in installation and repair.
- Variety of PVC formulations are available: Fish-Grade, Oil-Resistant, Potable Water (NSF 61), UV resistant, and Organic Acid & Base Resistant.



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Poly Vinyl Chloride (PVC) Specifications

| Certified Properties ² | ASTM | PVC 20 | PVC 30 | PVC 40 |
|---|---------------------------------|----------------------------|------------------------------|----------------------------|
| Thickness | D-5199 | 20 ±1 mil 0.51 ± .03 mm | 30 ±1.5 mil 0.76 ± .04 mm | 40 ±2 mil 1.02 ± .05 mm |
| Tensile Properties³ | D-882 ⁴ Min | | | |
| Strength at Break | | 48 lbs/in 8.4 kN/m | 73 lbs/in 12.8 kN/m | 97 lbs/in 17.0 kN/m |
| Elongation | | 360% | 380% | 430% |
| Modulus at 100% | | 21 lbs/in 3.7 kN/m | 32 lbs/in 5.6 kN/m | 40 lbs/in 7.0 kN/m |
| Tear Strength | D-1004 ⁴ Min | 6 lbs 27 N | 8 lbs 35 N | 10 lbs 44 N |
| Dimensional Stability | D-1204 ⁴ Max Chg | 4% | 3% | 3% |
| Low Temperature Impact | D-1790 ⁴ Pass | -15° F -26° C | -20° F -29° C | -20° F -29° C |
| Index Properties ⁵ | ASTM | PVC 20 | PVC 30 | PVC 40 |
| Specific Gravity | D-792 Typical | 1.2 g/cc | 1.2 g/cc | 1.2 g/cc |
| Water Extraction Percent Loss (max) | D-1239 ⁴ Max Loss | 0.15% | 0.15% | 0.20% |
| Average Plasticizer Molecular Weight | D-2124 ^{4,5} | 400 | 400 | 400 |
| Volatile Loss Percent Loss (max) | D-1203 ⁴ Max Loss | 0.9% | 0.7% | 0.5% |
| Soil Burial | G160 ⁴ Max Chg | | | |
| Break Strength | | 5% | 5% | 5% |
| Elongation | | 20% | 20% | 20% |
| Modulus at 100% | | 20% | 20% | 20% |
| Hydrostatic Resistance | D-751 ⁴ Min | 68 psi 470 kPa | 100 psi 690 kPa | 120 psi 830 kPa |
| Seam Strengths | ASTM | PVC 20 | PVC 30 | PVC 40 |
| Shear Strength³ | D-882 ⁴ Min | 38.4 lbs/in 6.7 kN/m | 58.4 lbs/in 10 kN/m | 77.6 lbs/in 14 kN/m |
| Peel Strength³ | D-882 ⁴ Min | 12.5 lbs/in 2.2 kN/m | 15 lbs/in 2.6 kN/m | 15 lbs/in 2.6 kN/m |

Notes:

1. PGI 1104 replaces PGI 1103 Specification effective 1/1/04.
2. Certified properties are tested by lot as specified in PGI 1104 Appendix A.
3. Metric values are converted from US values and are rounded to the available significant digits
4. Modifications or further details of test are described in PGI 1104 Appendix B.
5. Index properties are tested once per formulation as specified in PGI 1104 Appendix A.



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