

ZeroPerm® Vapor Barrier Membrane



ZeroPerm® vapor barrier membrane from **Polyguard Products** is an absolute “zero perm” barrier that provides maximum protection for all types of insulations used in below ambient, sub-freezing and cryogenic applications on duct, pipe, or vessel systems.

- Bright white finish similar to traditional ASJ, new WMP-ASJ and PVDC jacketing
- Meets ASTM E84 25/50 Smoke and Flame requirements.
- Meets ASTM 1136-12, Type IX
- Puncture and tear resistant
- Zero permeability
- Paper-free
- Mold resistant

Description

ZeroPerm® is a 3-ply composite membrane consisting of a white 0.5 mil polyester film, 1.0 mil aluminum foil, and one 0.5 mil clear polyester film. The foil provides the zero permeance in the composite while the polyester layers protect the foil and provide the white finish, toughness and tear resistance. **ZeroPerm** is reversible, the white polyester side of can be left exposed when no protective jacket is required and offers an appearance similar to traditional and next generation ASJ, PVC and PVDC polymer jacketing. The polyester side presents a smooth silver foil finish.

Uses

ZeroPerm® vapor barrier is used on cold systems either between layers of insulation on sub-freezing projects like LNG piping, or as the outer vapor-barrier jacket on ammonia, brine or glycol systems under mechanical jacketing, either metal or PVC. **ZeroPerm** can also be used on chilled water systems replacing ASJ and PVDC jacketing either left exposed or under a protective metal or PVC jacket.

Installation

ZeroPerm® is typically factory installed by a fabricator but can be installed in the field. Two types of **ZeroPerm** tapes are available to complete the installation in the field. Both use a high quality, acrylic adhesive with excellent cold weather performance. **ZeroPerm-A Tape** has a kraft release liner and is typically available in 2” and 3” width rolls for sealing longitudinal and circumferential laps. **ZeroPerm Self-Wound** has no liner, is used on valves and fittings and comes in 1”, 2” and 3” widths. See separate data sheet for **ZeroPerm** tapes.

Packaging

- **ZeroPerm® Vapor Barrier** (rolls) - 23.5” x 500’; 35.5” x 500’; 35.5” x 1000’
- **ZeroPerm® Vapor Barrier** (rolls) - 23.5” x 500’; 35.5” x 500’; 35.5” x 1000’
- **ZeroPerm®-A** (acrylic adhesive with liner) (rolls)- 2”, 3”, 23.5”, 35.5” x 150’
- **ZeroPerm® Self-Wound Tape** (acrylic adhesive) (rolls)- 1”, 2”, 3” x 400’

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This information is based on our best knowledge, but POLYGUARD cannot guarantee the results to be obtained.

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ZeroPerm® Technical Properties and Testing

| Membrane Property | Test Method | Results |
|--|----------------------|--|
| Total Product Thickness | Micrometer | 2.0 Mils(12.2/25/12.2)Film Only 2.4 Mils(Total) |
| Water Vapor Transmission(grains/hr-ft ²) | ASTM E96-Procedure A | .00 |
| Puncture Resistance | ASTM D 1000 | 13 lbf |
| Tensile Strength | ASTM C1136 | 27 lb/in(XD) 23 lb/in(MD) |
| Elongation | ASTM-882-02 | 55%(MD) 50%(XD) |
| Mold and Mildew Resistance | ASTM C-1338 | No Growth |
| High Service Temperature Limit | 4 Hour Oven exposure | 150°F |
| Low Service Temperature Limit | ASTM D1790 | -20°F |
| Humidity Resistance | ASTM C1258 | Pass |
| Dimensional Stability | ASTM D1204@150°F | <0.25% change |
| Weight Per Area | Scale/Balance | 22.7 lbs/1000 sq.ft. |
| Flame/Smoke | ASTM E-84 | Meets 25/50 |

Note: Before installing ZeroPerm obtain a full set of installation instructions at www.PolyguardProducts.com or by calling Polyguard at 800-541-4994 or by asking your local distributor or sales representative.

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