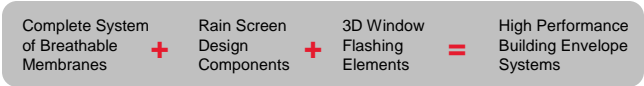


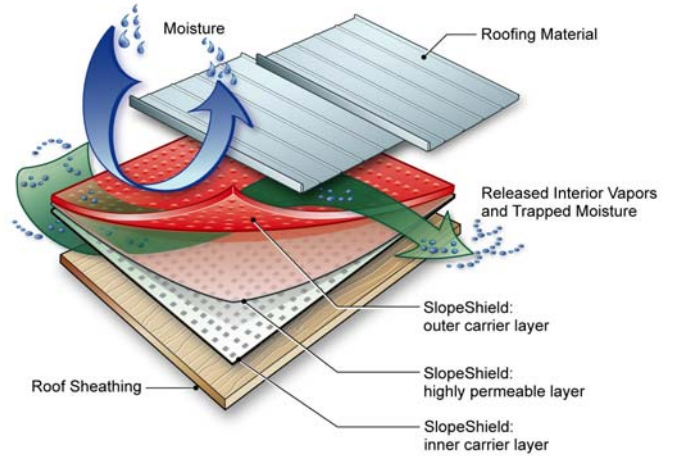
**THE VAPROSHIELD SYSTEMS APPROACH**

VaproShield promotes a systems approach to building envelope design, incorporating Breathable Membranes for roofs and walls, Rain Screen Design Components and 3D Window Flashing Elements resulting in High Performance Building Envelope Systems.



**SlopeShield combines the best properties of a vapor permeable membrane and a roofing underlayment in one innovative, affordable product.**

**With a rating of 59 perms, SlopeShield provides the highest vapor permeability in a commercial quality, breathable roofing underlayment.**



*SlopeShield membrane construction illustrating the release of interior vapors and moisture*

**Drying Capacity**

- High permeability and exceptional water holdout capacity prevents liquid water intrusion. Moisture vapor is allowed to escape ensuring good indoor air quality, reducing incidence of mold, mildew, wood rot, lumber distortion and metal corrosion.

**Construction & Installation**

- High permeability rating (59 perms) allows wet sheathings to dry quickly, allowing installation during inclement weather.
- Textured surface helps reduce slip risks.
- Lightweight, wide 59" (1.5 meters) rolls install quickly and easily.

**Durability & Cost Effectiveness**

- High tear, rip and puncture resistance during and after construction reducing repairs and labor costs.
- Sustains 4 months of UV and climate exposure.
- Installs easily and quickly, mechanically attaching directly to plywood, OSB and other substrates decreasing installation time.

**Environmental Sustainability**

- Contributes to LEED points in Indoor Environmental Quality and Energy & Atmosphere.
- Is 100% recyclable.

**Compatibility**

- Compatible with metal roofing, copper, zinc, clay tile, slate, wood shakes and shingle roofs.
- The solution for commercial, institutional and multi-family residential construction.



*SlopeShield water vapor transmission: 59 perms*

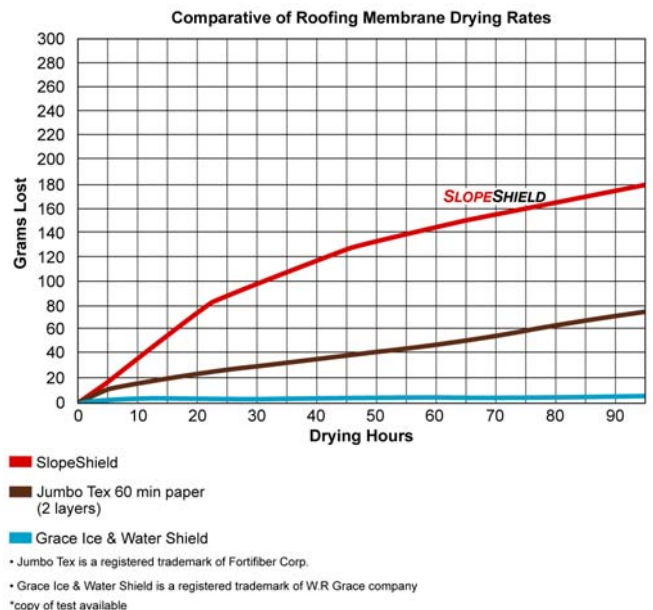


*SlopeShield triple layer spun bond polypropylene*

*Close up and microscopic images of SlopeShield membrane construction*

**THIRD PARTY TESTING RESULTS**

**SlopeShield is Unsurpassed in Performance with 59 Perms**



**THIRD PARTY INDEPENDENT ACCREDITED LABORATORY TESTING**

**SLOPESHIELD TESTING**

Acceptance Criteria for Polypropylene Roof Underlayments AC 207 & Acceptance Criteria for Roof Underlayments for use in severe climate areas AC48. Tested in accordance with ICC-ES AC 48 and AC 207 criteria to meet UBC, IBC and IRC requirements for Roofing Underlayments. \*ASTM E 96 - Method B (wet cup method) typically gives a more realistic result for permeance than does the Method A (dry cut/desiccant) method.

Property	Standard/Test	Result	Result	Result
Tensile Strength	ASTM D1682 AC 48, Section 4.1	<u>Control</u> MD – 106.7 lbf/inch (18.7 N/mm) XMD – 83.8 lbf/inch <b>PASS</b>	<u>Accelerated Aged</u> MD – 107.0 lbf/inch (18.7 N/mm) XMD – 81.4 lbf/inch <b>PASS</b>	<u>UV Exposed</u> MD – 97.3 lbf/inch (17.0 N/mm) XMD - 76.7 lbf/inch <b>PASS</b>
Water Vapor Transmission and Permeance	ASTM E96* (Water Method) AC 207, Section 4.1	406.3 g/m <sup>2</sup> 24hrs 3374.8 ng/Pa/s/m <sup>2</sup> 59 Perms <b>PASS</b>		
Water Ponding	AC 48, Section 4.4 24" head of water for 48 hrs.	<b>PASS</b>		
Accelerated Aging	AC48, Section 4.7 AC207, Section 4.6	<b>PASS</b>		
UV Exposure	AC48, Section 4.8 AC207, Section 4.7	<b>PASS</b>		
Liquid Water Transmission	ASTM D4869 AC207, Section 4.3 Showerhead impinges 40 to 42 gallons of water per hour for 4 hrs on sample.	<b>PASS</b>		
Rupture Resistance	ASTM D3462 AC207, Section 4.4	<b>PASS</b>		
Pliability	ASTM E48 AC 207, Section 4.2	<b>PASS</b>		

**Fire Testing**

Property	Standard/Test	Result
Flamespread Index	ASTM E-84	10 – Class A <b>PASS</b>
Smoke Development Index	ASTM E-84	35 – Class A <b>PASS</b>

**Independent Testing**

Property	Standard/Test	Result
Nominal Thickness	Calibrated Deadweight Micrometer	0.020 inch (0.51mm)
Basis Weight	Electronic Weight Scale	5.01 oz/yd <sup>2</sup> (0.55 oz/ft <sup>2</sup> ) 170 g/m <sup>2</sup>

**INDUSTRY BEST PRACTICE**

Best practices in roofing construction recommend applying permanent roof covering as soon as possible.