VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

VaproLiqui-Shield™

a fluid-applied vapor permeable water resistive (WRB) air barrier (AB)
Product No.: 58304600, 5 gallon (18.9 liters) Pail
Product No.: 58300299, 52 gallon (197 liters) Drum

Product Description

VaproLiqui-Shield is a fluid-applied vapor permeable water resistive barrier/air barrier that protects the building envelope by allowing vapor to pass through (breathable) but not air or liquid water.

BASIC USE

VaproLiqui-Shield is installed above grade on the outside of the wall sheathing and behind rain screen wall cladding assemblies.

MATERIALS

VaproLiqui-Shield is a sprayable/rollable STPE that is solvent and isocyanate free.

BENEFITS

Breathable and weather-resistant balances water and air tightness along with drying capability, critical for high-performance wall assemblies.

Up to 12 months UV and weather exposure makes membrane ideal for long-term projects.

Forms a seamless, monolithic barrier.

Sprayable and rollable application options increases jobsite efficiency and enables faster, easier installation across various surface types.

Drying capacity of 21 perms allows substrates to dry-out reducing the risk of damage from moisture infiltration, mold, mildew, and rot for the life of the building.

Bonds to most common building materials including concrete, CMU Block, OSB, gypsum sheathing, and steel.

Uniquely suited for open joint cladding requiring advanced UV protection such as perforated panels, reclaimed wood and special facades.

Solvent and isocyanate-free formulation supports healthier jobsite conditions.

Compatible Substrates

Can be applied and bonds to most common building materials without priming.

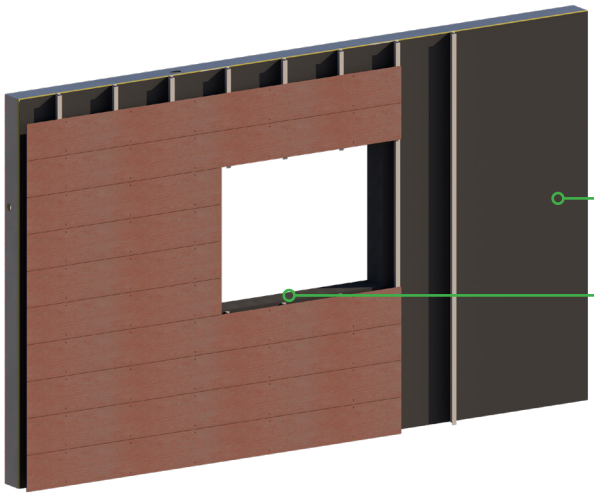
- Concrete
- CMU Block
- Plywood
- Framing Lumber
- OSB
- Brick
- Metal (Steel, Aluminum)
- MGO Board
- Exterior Gypsum Sheathing

Contact VaproShield Technical – if you have additional substrate or technical questions.

Technical Data

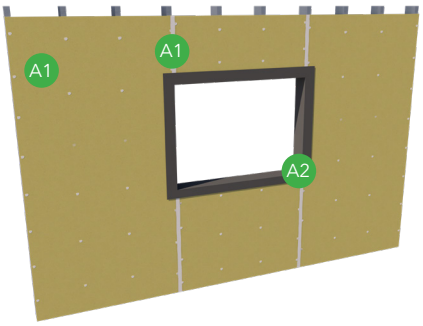
PHYSICAL PROPERTIES	
PROPERTY	RESULT
Color	Black
Pail Size Drum Size	5 gal (3.8 liters) 52 gal (196.8 liters)
Pail Weight Drum Weight	60 lbs (27.2 kg) 624 lbs (283 kg)
Skid	5 gal: 24 Pails 52 gal: 3 Drums
Field Exposure Before Permanent Cladding	12 months
Composition	Silyl Modified Polymer
Minimum Application Temperature	32°F and rising (0°C and rising)
Application Thickness	20 wet mils
Service Temperature	-40°F to 248°F (-40° to 120°C)
Coverage	See page 3
VOC	20.7 g/L
Warranty	20 year material warranty

Complete Vapor Permeable Air Barrier WRB System

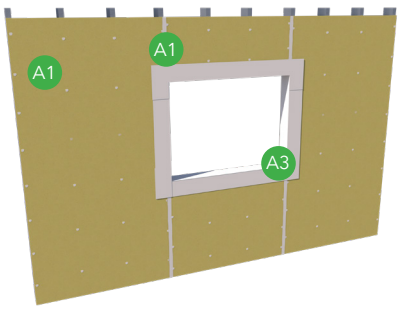


AIR BARRIER WRB:
VAPROLIQUI-SHIELD

A FASTENER AND SEAM FILLER, ROUGH OPENING FLASHING OPTIONS



Permeable rough opening: VaproLiqui-Flash™



Impermeable rough opening: VaproFlashing SA™

A ROUGH OPENING, FASTENER, SEAM FILLER OPTIONS

- A1 Seam and fastener filler less than 1/4": VaproAirSeal™
  Note: Seams larger than 1/4" require additional detailing. Refer to installation instructions.
- A2 Permeable rough opening: VaproLiqui-Flash™
- A3 Impermeable rough opening: VaproFlashing SA™

Reference individual data sheets for comprehensive information at VaproShield.com.

Rough Opening, Fastener, and Seam Filler	 **VaproFlashing SA**			 **VaproLiqui-Flash**	 **VaproAirSeal**
Part No.	42504590	42504890	42506090	38609801	60509800
Size	4" x 100' (0.10m x 30.5m) 33.3 S/F (3.1 S/M)	6" x 100' (0.15m x 30.5m) 50 S/F (4.6 S/M)	12" x 100' (.3m x 30.5m) 100 S/F (9.3 S/M)	20 oz. (0.59 l)	20 oz. (0.59 l)
Primary Use	Rough opening, Seams greater than 1/4"	Rough opening, Seams greater than 1/4"	Rough opening, Seams greater than 1/4"	Rough opening	Fastener pentrations, Seams less than 1/4"
Application Temperature	20°F to 180°F (-6.6°C to 82°C)	20°F to 180°F (-6.6°C to 82°C)	20°F to 180°F (-6.6°C to 82°C)	35°F to 110°F (1.7°C to 43°C)	40°F (4.4°C)
Drying Capacity Breathable Permeability	None	None	None	High	None
Application Method	Roller for adhesive	Roller for adhesive	Roller for adhesive	Sausage Gun / Putty Knife or Brush	Sausage Gun / Putty Knife or Brush

Visit VaproShield.com for details.

Installation

STORAGE AND HANDLING

Store VaproLiquid-Shield in a cool, dry place. Keep container tightly closed when not dispensing. Do not open container until preparation work has been completed. Do not alter or mix with other chemicals. Store unopened containers at temperatures between 41°F to 86°F (5°C to 30°C). Avoid high humidity. Use within 18 months from the date of manufacture. containers. Dispose of unused product and container in accordance with local, state and federal regulations.

Safety Information

Read the full label and SDS for precautionary instructions before use. Use with adequate ventilation, safety equipment, and jobsite controls during application and handling.

FIRST AID

Ingestion: If swallowed: Clean mouth with water. If symptoms occur, obtain medical advice. For additional information, see Safety Data Sheet. Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing.

Eye Contact: Flush eyes for at least 15 minutes.

Skin Contact: Wash with plenty of soap and water.

Inhalation: Remove to fresh air.

24-Hour Emergency Information: CHEMTREC 1-800-424-9300

PREPARATION

Best Practice: Always test a small area of each surface to confirm suitability and desired results before starting overall application. Test with the same equipment, recommended surface preparation, and applications procedures planned for general application.

To ensure best results, apply to clean surfaces free of contaminants. Chemical residues, surface coatings or films may adversely affect adhesion.

Remove dust/debris from intended application area. Protect adjacent surfaces not intended to receive VaproLiqui-Shield.

Ensure positive drainage at all rough openings.

EQUIPMENT

Spray Application: Professional airless spray equipment producing 4000 psi at the gun optimal 5,000-6,500 at pump.

Roller Application: Standard 3/8-inch nap roller

Detail Work: Sausage gun for Vapro Liqui-Shield, brush, trowel, or putty knife

Fabric Installation: J-roller or hand roller for embedding mesh

Wet Mil Gauge: For thickness verification

CURING AND DRYING

Average tack free time is approx. 40-50 min. Curing/drying speed will be influenced by temperature and humidity conditions.

BEST PRACTICE INSTALLATION

Apply according to step-by-step installation instructions at VaproShield.com. VaproLiqui-Shield is a rollable and sprayable terminated polyether that may be applied in a single or multi-pass as a fluid-applied vapor permeable barrier system when used with additional VaproShield products. Recommended coverage rate for a single pass to achieve 20.8 perms with VaproLiqui-Shield is 20 wet mils. However, coverage rates may slightly vary depending on surface porosity and other factors. Surfaces must be clean and free of contaminants, such as grease, dirt, oil and dust for proper adhesion. The approximate skin-over time is 40-50 mins., but is determined by conditions such as ambient air temperature and humidity.

COVERAGE

Coverage rates to achieve 20.8 perms/20 mils (0.5mm) thickness

COVERAGE ESTIMATOR	
Substrate Type	Coverage Rate
Smooth Substrates (sheathing, metal etc.)	60 – 75 ft²/gal (5.6 – 7.0 m²/3.8 liters)
Porous Substrates (CMU, concrete etc.)	40 – 60 ft²/gal (3.7 - 5.6 m²/3.8 liters)

LIMITATIONS

VaproLiqui-Shield must be covered with cladding within 12 months of first application. Minimum application temperature 32°F (0°C) and rising. Optimal application temperature 40°F (4.4°C). Gaps over 1/4" (6.35mm) require reinforced detail treatment. The product must not be modified in any way.

Availability

VaproShield products are available throughout North America, Central and South America, and New Zealand.

Warranty

A 20-year material warranty is available.

TESTING DATA		
PROPERTY	STANDARD	RESULT
Strength		
Crack Bridging	ABAA T0004 Standard Test Method for Determining Gap Bridging Ability of Air and Water Resistive Barrier Materials	Wet Cup: 20.5 perms Dry Cup: 13.6 perms
Fungi Resistance	ASTM C1338 Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facing	PASS No growth
Tensile Strength	ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension	1.26 MPa (183 psi)
Elongation at Break Pass > 200 psi	ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension	230% (>PASS)
Low Temp Flexibility	ASTM D522 Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings	PASS No changes effects
Alkali Resistance	ASTM D543 Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents	PASS No adverse effects
Freeze Thaw Resistance	ASTM E2485 Standard Test Method for Freeze/Thaw Resistance of Exterior Insulation and Finish Systems (EIFS) and Water Resistive Barrier Coatings	PASS No surface change
Durometer Hardness, Shore A	ASTM C661 Standard Test Method for Evaluating Degree of Cracking of Exterior Paints	21
Water Vapor Transmittance		
Water Vapor Transmission Desiccant Method Procedure A	ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials	13.6 Perm (grains/hr•ft²•inchHg) 778 ng/Pa•s•m² at 0.30 mm (20 mil) @23°C 50% RH"
Water Vapor Transmission Water Method Procedure B	ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials	"20.5 Perm (grain/h•ft²•inchHg) 1173 ng/Pa•s•m² at 0.30 mm (20 mil) @23°C 50% RH"
Adhesion Testing		
Peel Adhesion (AAMA 711)	ASTM C794 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants	PASS ≥876 N/m (≥5 pli)
Accelerated UV aging (AAMA 711) ASTM G154 Peel Adhesion	ASTM C794 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants	PASS >876 N/m (>5 pli)
Elevated Temperature (AAMA 711) Peel Adhesion	ASTM C794 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants	PASS >876 N/m (>5 pli)
Thermal Cycling (AAMA 711) Peel Adhesion	ASTM C794 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants	PASS >876 N/m (>5 pli)
Water Immersion (AAMA 711) Peel Adhesion	ASTM C794 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants	PASS >876 N/m (>5 pli)
90° Peel Adhesion 24 hours	ASTM D4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers	>0.11 MPa (>16 psi)

TESTING DATA		
PROPERTY	STANDARD	RESULT
Air Resistance Testing		
Air Permeance	ASTM E2178 @75 Pa Standard Test Method for Air Permeance of Building Materials	≤0.2 L/s•m² @ 75 Pa (<0.039 cfm/ft² @ 1.57 psf)
AIR Barrier	ASTM E2357 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies	<0.2 L/s•m² @ 75 Pa (<0.039 cfm/ft² @ 1.57 psf)
Water Resistance Testing		
Water Holdout	ASTM C794 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants	PASS
Water Absorption by Diffusion	ASTM C1305 Standard Test Method for Crack Bridging Ability of Liquid-Applied Waterproofing Membrane	PASS
Nail Sealability	ASTM D1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection Section 7.9 referring to ASTM D7349 protocol 4 with modifications	PASS
Water Hold out 55 cm water column for 24hr with 1/16 inch	ASTM D2247 Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity	PASS no adverse surface effects
Water Resistance	AATCC 127 Hydrostatic pressure test (55 cm water column for 5 hours), American Association of Textile Chemists and Colorists	PASS
Fire Testing		
Flame Spread Smoke Developed	ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials	Flame Spread 25 Smoke Developed 90