VaproShield®
Breathable Membrane Systems for Roofs & Walls

PanelShield™ SA

a vapor permeable air barrier (AB) water resistive barrier (WRB) sheet membrane
Product No.: 19309099

PanelFlashing™

Product No.: 11 ¾" 43305500, 6" 43304899, 4" 43304599

Product Description

PanelShield SA is a vapor permeable, self-adhered water resistive barrier membrane that protects the building envelope by allowing vapor to pass through (breathable) but not air or liquid water.

BASIC USE

Designed for commercial, panelization, modular and residential construction applications, PanelShield SA creates a water resistive air barrier when applied outside of the wall sheathing and behind the exterior wall cladding. PanelFlashing is used for transitions, rough openings, fenestrations, and full-wall applications.

MATERIALS

PanelShield SA consists of a proprietary polyacrylic coating on spun-bond polyester fabric with a specially formulated adhesive that firmly grips to substrates.

BENEFITS

Aggressive adhesive ensures membrane adhesion on multiple substrate types including plywood, OSB, gypsum sheathing, concrete and steel. Excellent adhesion at laps and seams.

12 month UV and weather exposure makes membrane ideal for long-term projects.

Continuous adhesive allows superior adhesion requiring no primer.

All season weather installation membrane can be applied in virtually all weather conditions including below freezing 20°F (-6°C) and rising without the use of primer.

Cost effective permeable polyester air barrier WRB system solution.

Tough, durable and resilient withstands aggressive construction handling on the jobsite, in the factory, and during cross-country transport.

Drying capacity of 24.3 perms allow substrates to dry-out reducing the risk of damage from moisture infiltration, mold, mildew and rot for the life of the building.

PanelShield SA, when used as a WRB/AB, meets the exemption for low combustibility provided it is the only combustible component in the wall assembly, as referenced in the current International Building Code (IBC) Chapter 14.

Material is not effected by surfactants.

Accelerates installation process with non-directional positioning and requires only basic tools for cutting and rolling.

Eliminate surface preparation, membrane can span gaps up to 7/8" (22.2mm) and requires zero primer.

Ensures crew safety and a healthy building, no VOC exposure, no primers, or protective gear required for installation.

Compatible with all VaproShield rough opening flashing accessories eliminating the need for untested outside components.

Air barrier stops air infiltration, passes ASTM E2178 materials test and ASTM E2357 Air Barrier assembly test.

Compatible Substrates

- Exterior Gypsum Sheathing
- Rigid Insulation
- OSB
- Concrete
- Brick
- Plywood
- Metal (Steel, Aluminum)
- Fiberglass Window and Door Frames

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

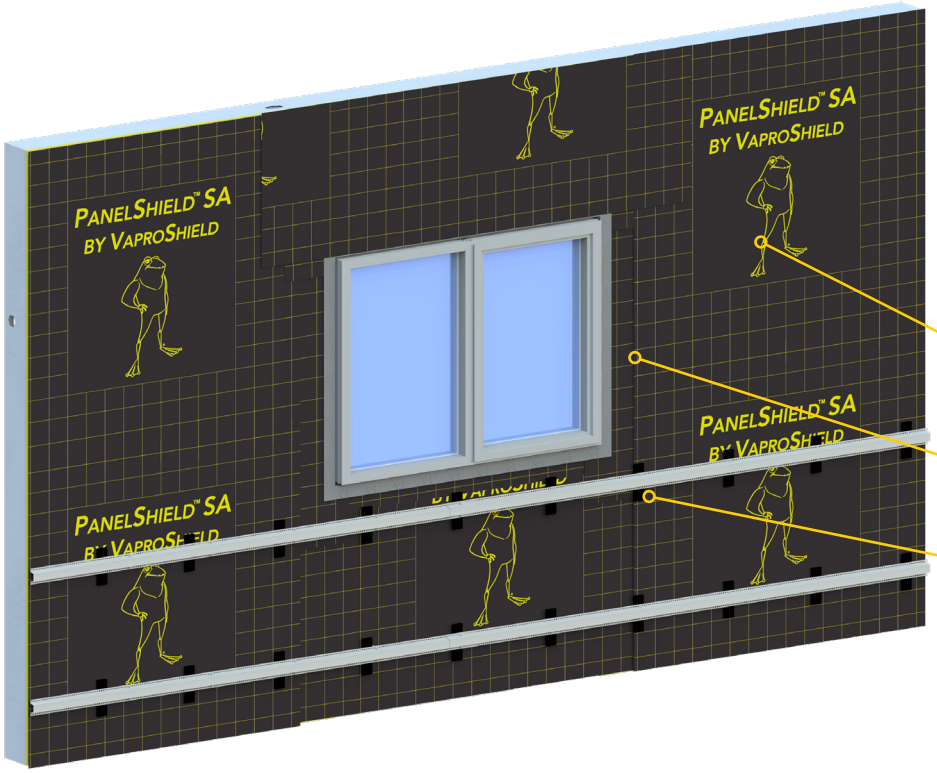
Technical Data & Environmental

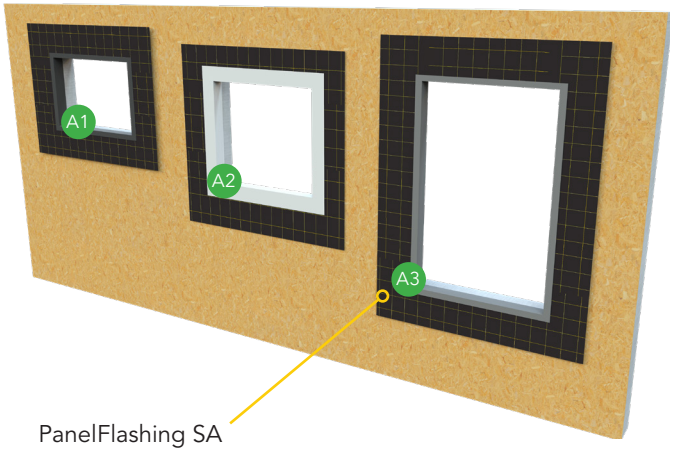
Environmental Product Declaration (EPD) third-party verified. ISO 21930 and ISO 14025 North American compliant.

Tested to industry standards for air barrier and water resistive barriers.

PHYSICAL PROPERTIES	
PROPERTY	RESULT
Color	Black/Yellow
Thickness	14 mil (0.36 mm)
Membrane Weight	275.7 g/m² (0.904 oz/ft²)
Roll Weight (with release film)	40 lbs (18 kg)
Roll Dimensions	59" x 102' (1.5m x 31m)
Roll Coverage	500 ft² (46.65 m²)
Skid	25 Rolls
Primer	No Primer Required
VOCs	None
Field Exposure Before Permanent Cladding	12 months
Minimum Application Temperature	20° F (-6°C)
Service Temperature	Minus 40°F (-40°C) to 250°F (121°C)
Warranty	20 year material warranty

Complete Vapor Permeable Air Barrier WRB System





A ROUGH OPENING FLASHING OPTIONS

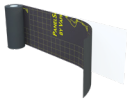
The following rough opening flashing components can be used:

- A1 VaproLiqui-Flash™
- A2 BlockFlashing™
- A3 VaproBond™

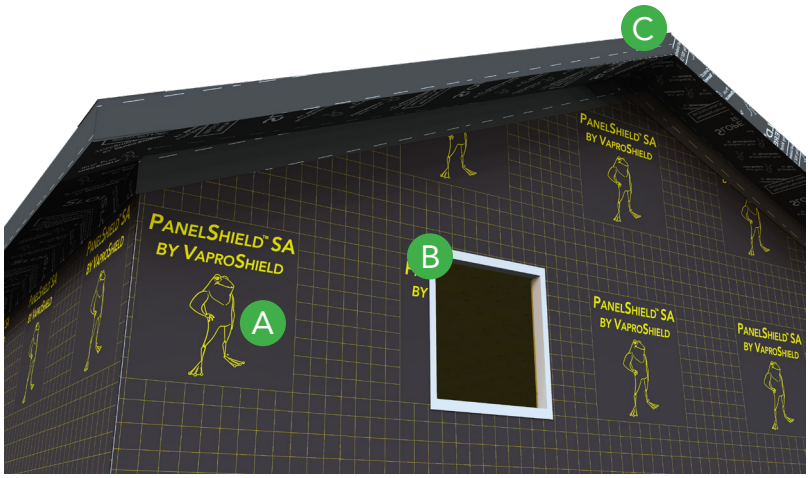
Reference individual data sheets for comprehensive information at VaproShield.com.

Window and Rough Openings Flashing	Vapro-Liqui-Flash	BlockFlashing	VaproBond
Application Temperature	35°F to 110°F (1.7°C to 43°C)	20°F (-6.6°C) and rising	20°F to 120°F (-6.7°C to 49°C)
Drying Capacity Breathable Permeability	High	None	Low
Application Method	Sausage Gun / Putty Knife or Brush	Utility Knife / J-Roller	Sausage Gun / Putty Knife

Additional flashing options available at VaproShield.com

PanelFlashing SA		
Product	Part No.	Roll Sizes
PanelFlashing SA Roll 	43305500	11 ¾" x 102', 100 S/F (298mm x 31m, 9.3 S/M)
	43304899	6" x 102', 51 S/F (152mm x 31m, 4.7 S/M)
	43304599	4" x 102', 34 S/F (102mm x 31m, 3.2 S/M)

Complete Vapor Permeable Air Barrier System



A **PanelShield SA** air and water resistive membrane installed on the walls, can be exposed to all types of weather elements **up to 12 months** before final closed joint cladding is installed.

B **PanelFlashing** pre-cut field membrane, **combined with BlockFlashing** creates a cost effective rough opening solution.

C **Add SlopeShield Plus Self-Adhered roofing membrane** and create a true air and watertight wall assembly with drying capacity to mitigate moisture damage.

RELATED LEED CREDITS

VaproShield membranes qualify for LEED credits. Visit VaproShield.com for the latest sustainability and LEED information.

Installation

STORAGE AND HANDLING

Store materials on end in original packaging at temperatures between 40°F and 120°F (4.4°C and 48.9°C). Protect materials from direct sunlight and inclement weather until ready for use.

SAFETY

Work crews are safe around VaproShield membranes. PanelShield SA contains zero VOCs or toxins.

PREPARATION

All surfaces must be dry, sound, clean, "as new*" condition, and free of oil, grease, dirt, excess mortar, or other contaminants detrimental to the adhesion of the water resistive air barrier membrane and flashings. Fill voids and gaps in substrate greater than 7/8 inch (22.2 mm) in width to provide an even surface.

*****_For retrofit projects with existing substrates, contact VaproShield Technical to review adhesion compatibility._

BEST PRACTICE INSTALLATION

All overlaps must be a minimum of 3" (8 cm) on vertical and horizontal seams. Inside and outside vertical corner overlaps should be a minimum 6" (15 cm) in both directions, staggered a minimum of 24" (61 cm), and should not occur directly above or below windows or doors. Use a roller to activate pressure-sensitive adhesive.

Visit www.VaproShield.com for complete installation instructions and details.

LIMITATIONS

PanelShield SA should be covered with cladding within 12 months of field assembly. Minimum field assembly recommended installation temperature of 20˚ F (- 6.0˚ C) and rising.

If desired adhesion is not attained between membranes due to site conditions, VaproShield recommends applying a bead of VaproBond as an additional solution to pressure rolling.

Availability

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

Warranty

A 20-year material warranty is available.

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TESTING DATA

PROPERTY	STANDARD	RESULT
Strength		
Dry Breaking Force (Grab method) MD ≥40 XMD ≥35	ASTM D5034 Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)	MD - 560 N (126 lbf) XMD - 378 N (85 lbf)
Elongation at Break	ASTM D5034 Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)	MD - 529 N (119 lbf) XMD - 427 N (96 lbf)
Cold Mandrel Bend Test	AC38 Section 3.3.4	MD – no cracks Pass XCD – no cracks Pass
Weathering Tests	AC38 Section 4.1.2 UV Exposure AC38 Section 4.1.3 Accelerated Aging	Accelerated UV aging: No objectionable appearance Thermal Cycling: No objectionable appearance Elevated Temperature: No objectionable appearance Water immersion: No objectionable appearance
Water Vapor Transmittance		
Water Vapor Transmission Desiccant Method Procedure A	ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials	8.86 Perm (grain/h•ft²•inchHg) 507 ng/Pa•s•m² (23°C 50-100 %RH)
Water Vapor Transmission Water Method Procedure B	ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials	24.3 Perm (grain/h•ft²•inchHg) 1390 ng/Pa•s•m² (23°C 50-100 %RH)
Water Vapor Transmission Using Modulated Infrared Sensor	ASTM F1249 Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor	5.9 Perm (grain/h•ft²•inchHg) 338 ng/Pa•s•m² (23°C 0-50 %RH)
Adhesion Testing		
Lap Peel Strength	ASTM D1876 Standard Test Method for Peel Resistance of Adhesives (T-Peel Test)	2.0 lbf/in (0.35 N/mm)
Adhesion to backing 180° Peel Adhesion	ASTM D3330 method B	3.2 lbf/in (0.56 N/mm)
90° Peel Adhesion	AAMA 711 Section 5.3 (ASTM D3330 method F PASS ≥ 0.26 N/mm (1.5 lbs/in)	Anodized aluminum 2.7 lbf/inch (0.47 N/mm) DensGlass Gold 3.0 lbf/inch (0.53 N/mm) OSB 1.5 lbf/inch (0.26 N/mm) Plywood 2.7 lbf/inch (0.47 N/mm) Vinyl 2.3 lbf/inch (0.40 N/mm) Facing material 1.7 lbf/inch (0.30 N/mm)
Accelerated Aging and UV exposure 90° Peel Adhesion 24 hours	AAMA 711 Section 5.4	Accelerated UV aging 3.1 lbf/inch (0.54 N/mm)
Elevated Temperature (80 °C for 7 days) 90° Peel Adhesion 24 hours	AAMA 711 Section 5.5	Elevated Temp 176°F (80°C) 1.8 lbf/inch (0.32 N/mm)
Thermal Cycling 90° Peel Adhesion 24 hours	AAMA 711 Section 5.6	Thermal Cycling 2.7 lbf/inch (0.47 N/mm)
Adhesion after Water Immersion	AAMA 711 Section 5.8	Water immersion 2.2 lbf/inch (0.39 N/mm)
Resistance to Peeling from Itself 90° Peel Adhesion 24 hours	AAMA 711 Section 5.9 & Annex A	Pass level 3
Pull Adhesion	ASTM 4541	Glass-fiber faced gypsum 33 psi (0.23 MPa) CMU Block 28 psi (0.19 MPa)
Air Resistance Testing		
Air Permeance	ASTM E2178 @75 Pa Standard Test Method for Air Permeance of Building Materials	0.0017 L/s•m² @ 75 Pa (<0.000335 cfm/ft² @ 1.57 psf)
Air Barrier	ASTM E2357 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies	<0.0086 L/s•m² @ 75 Pa (<0.0017 cfm/ft² @ 1.57 psf)
Air Barrier	CAN/ULC-S742-11-R2016 exterior side of the assembly is cooled to -20 °C while the interior side is maintained at 20 °C air leakage cannot exceed 0.05 L/s•m² @ 75 Pa	A1 Classification: < 0.05 L/s•m² at 75 Pa (.0098 cfm/ft² @ 1.57 psf)
Air Barrier	CAN/ULC-S741-08 air leakage cannot exceed 0.05 L/s•m² @ 75 Pa. Air leakage rate of the air barrier material after conditioning must not be more than 10% or 0.001 L/s•m² greater than its air leakage before conditioning	Value: Meets requirements Unconditoned < 0.02 L/s•m² at 75 Pa (0.00394 cfm/ft² @ 1.57 psf) Conditioned <0.01 L/s•m² at 75 Pa (0.00197 cfm/ft² @ 1.57 psf)

TESTING DATA		
PROPERTY	STANDARD	RESULT
Water Resistance Testing		
Water Resistance (Control after Weathering)	AATCC 127 Hydrostatic pressure test (55 cm water column for 5 hours), American Association of Textile Chemists and Colorists	Control - No leakage Weathered - No Leakage
Nail Sealability	ASTM D1970 Section 7.9 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection ASTM D7349 Standard Test Method for Determining the Capability of Roofing and Waterproofing Materials to Seal Around Fasteners	PASS
Fire Testing		
Flame Spread Smoke Developed	ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials	Flame Spread 0 Smoke Developed 0
ASTM E1354	ASTM E1354 Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter	Ave. Effective Heat of Combustion: 1.4 MJ/kg Peak HRR: 35 kW/m² Total HRR/A: 1.6 MJ/m²