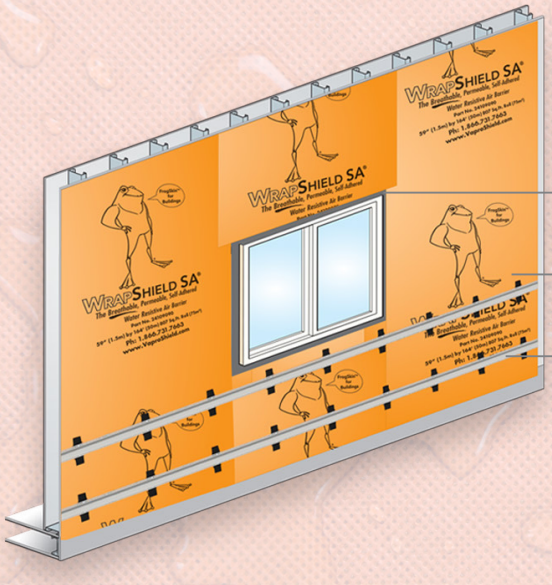
WrapShield SA® Self-Adhered

COMPLETE WRB/AIR BARRIER SYSTEM

SUBMITTAL PACKAGE



3 SIMPLE STEPS

Install Rough Opening Flashing Materials

Apply Airtight and Breathable Field Membrane

Add Rain Screen Design Components

COMPLETE WRB/AIR BARRIER SYSTEM

VaproShield®

Breathable Membrane Systems for Roofs & Walls

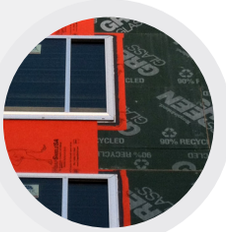
VaproAir Barrier System

Two Components: Fast, Simple, Efficient

VaproAirBarrier System: contractor friendly, competitive and sustainable

- Achieve complete air barrier continuity by managing only two components in the field, drastically reducing training and installation time.
- Use common hand tools for installation and reposition membrane for up to 40 min. after initial adhesion. Innovative adhesive cures overtime.
- Installed costs average 30-50% less than the typical competitors. How? By eliminating the need for any joint/corner treatments, tapes, adhesives and spray equipment.
- Zero VOC's, red list chemicals or toxins; installation crews are safe around all VaproShield membranes and accessories, no respirators or special overalls are ever required.

Apply membranes in virtually any weather; below freezing, before/ after rain events



Requires no substrate joint reinforcement or screw hole taping, and bridges gaps up to 3/8"

air barrier association of america
abaa
EVALUATED

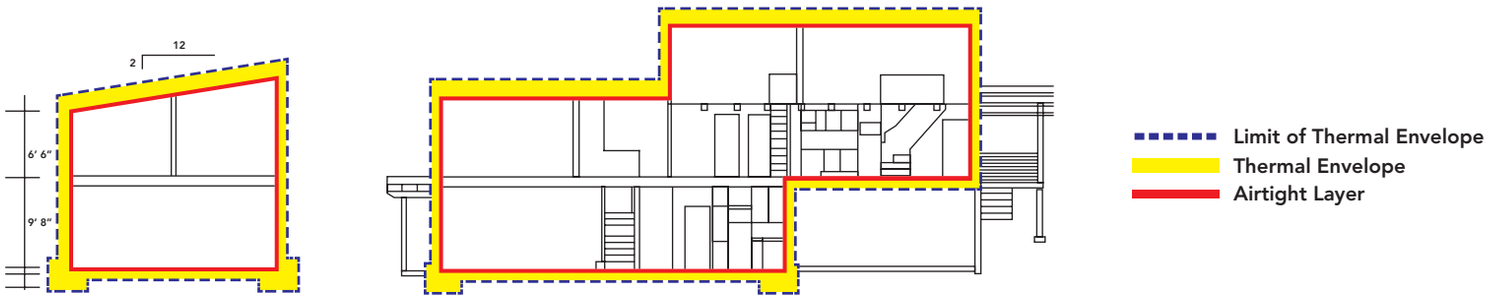
ABAA Approved, meets/exceeds all industry standard WRB/Air Barrier tests including ASTM E2357-05

Try it for yourself. Order samples today at VaproShield.com or contact our Technical Team at 866-731-7663 opt. 5

VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

VaproShield LLC | 915 26th Ave. N.W. Suite C5 | Gig Harbor, WA 98335 | Toll Free: 1.866.731.7663 | www.VaproShield.com | © VaproShield 3/2016
VaproShield Canada | 101-1001 West Broadway Suite 545 | Vancouver, B.C. V6H 4E4, Canada | Toll Free: 1.866.871.8263 | www.VaproShield.ca

Air Barrier Overview



What is an Air Barrier Solution?

An air barrier system must be continuous. The system consists of materials (individual components), assemblies (such as windows) and connections between them. Components of the air barrier system must be connected in a manner that is capable of resisting positive and negative loads and remain durable.

A product is not an air barrier on its own, it must be part of a continuous system. Research has demonstrated that air leakage through the building envelope can transport exponentially more moisture through the building envelope than water vapor by diffusion. Controlling air flow can reduce problems such as corrosion, wall component deterioration and mold growth.

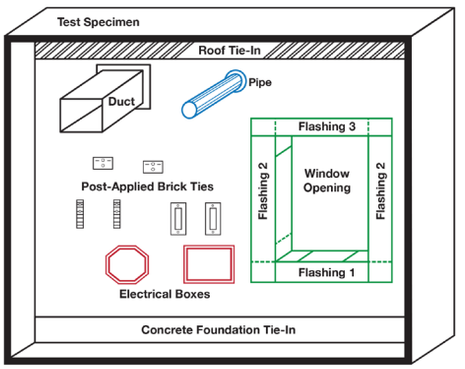
Other benefits are improved energy efficiency and indoor air quality over the life of the building. A 2005 NIST[1] study showed that an effective air barrier can reduce a buildings energy costs by as much as 40% and electrical costs by more than 25%.

Understanding Air Barrier Testing

ASTM E2357 Air Leakage of Air Barrier Assemblies

Test Standard:

Measures air permeance (leakage) of air barrier materials/accessories when combined into a wall assembly with pipe penetrations, brick ties, electrical boxes, foundation transitions, lap seams and flashings.

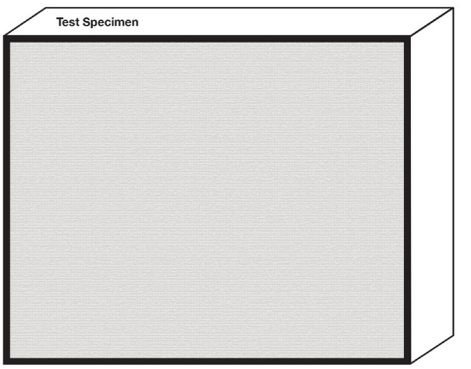


ASTM E2357 is a more realistic test method, emulating installed materials on a building

ASTM E2178 Air Permanence of Building Materials

Test Standard:

Measures air permeance (leakage) of an air barrier material.



1. National Institute of Standards and Technology (NIST), NISTIR 7238 Investigation of the Impact of Commercial Building Envelope Airtightness on HVAC Energy Use

SPEC WRITERS NOTE: This specification includes materials and installation procedures for **WrapShield SA®** Self-Adhered Water-Resistive Vapor Permeable Air Barrier Sheet Membrane meeting ASTM E 2357 for air barrier assemblies. **WrapShield SA®** self-adhering sheet membrane is used behind rain screen wall cladding assemblies such as pressure equalized cladding systems incorporating composite and metal materials, masonry and stone veneers, stucco and EIFS without the need of a primer. With a vapor permeance rating of 50 perms (2875ng/Pa.s.m^2) **WrapShield SA®** Water-Resistive Vapor Permeable Air Barrier Sheet prevents air leakage and allows the wall assembly to breathe or 'dry-out' as necessary to meet the conditions of seasonal changes for each climate zone. This guide specification should be adapted to suit the requirements of individual projects. It is prepared in CSI Master Format and should be included as a separate section under Division 7 - Thermal and Moisture Protection.

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. This Specification shall be read as a whole by all parties concerned. Each Section may contain more or less the complete Work of any trade. The Contractor is solely responsible to make clear to the Subcontractors the extent of their Work and coordinate overlapping Work.

1.02 SYSTEM DESCRIPTION

A. Supply labor, materials and equipment for a fully adhered water-resistive vapor permeable air barrier membrane system.

B. Complete Work as shown on the Drawings and specified herein to bridge gaps and seal the water-resistive vapor permeable air barrier membrane against air leakage and water intrusion.

1. Connections of the walls to the roof membrane
2. Connections of the walls to the foundations
3. Seismic and expansion joints
4. Openings and penetrations of window and door frames, store front, curtain wall
5. Piping, conduit, duct and similar penetrations
6. Masonry ties, screws, bolts and similar penetrations
7. All other air leakage pathways in the building envelope

C. Install primary water-resistive vapor permeable air barrier, flashing , and ventilation strip accessories.

1.03 RELATED SECTIONS

A.	Masonry Veneer:	Section [04 XX XX]
B.	Gypsum Sheathing:	Section [06 XX XX]
C.	Plywood Sheathing:	Section [06 XX XX]
D.	Insulation:	Section [07 XX XX]
E.	Roofing:	Section [07 XX XX]
F.	Wall Panels:	Section [07 XX XX]

1.04 REFERENCE STANDARDS

A. American Association of Textile Chemists and Colorists (AATCC): ATCC 127 - Test Method for Water Resistance: Hydrostatic Pressure Test.

B. ASTM International (ASTM):

1. ASTM D 882 - Test Method for Tensile Properties of Thin Plastic Sheeting.
2. ASTM E 84 - Test Method for Surface Burning Characteristics of Building Materials.
3. ASTM E 96/E 96M - Test Methods for Water Vapor Transmission of Materials.
4. ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
5. ASTM E 2178 - Standard Test Method for Air Permeance of Building Materials.
6. ASTM E 2357 - Standard Test Method for Determining Air Leakage of Air Barrier Assemblies.

C. International Code Council Evaluation Service, Inc. (ICC-ES): ICC-ES AC38 - Acceptance Criteria for Water-Resistive Barriers.

1.05 SUBMITTALS

A. Submit manufacturers' current product data sheets, details and installation instructions for the water-resistive vapor permeable air barrier membrane components and accessories.

B. Submit samples of the following:

1. Manufacturer's sample warranty
2. Water-resistive vapor permeable air barrier sheet, minimum 8 by 10 inches (203 by 254 mm)
3. Components, minimum 12-inch (305-mm) lengths
4. Membrane flashings
5. Fasteners, clips, strapping and masonry ties
6. Sealants

1.06 QUALITY ASSURANCE

A. Single Source: Self-adhered water-resistive vapor permeable air barrier membrane components and accessories must be obtained as a single-source membrane system to ensure total system compatibility and integrity.

B. Manufacturer Qualifications

1. Manufacturer of specified products listed in this Section to have minimum 10 years of continued experience in the manufacture and supply of highly vapor permeable water resistive air barrier products successfully installed in similar project applications.
2. Manufacturer of specified products listed in this Section to have experienced in-house technical and field observation personal qualified to provide expert technical support.

C. Fire Performance Characteristics: Provide water-resistive barrier meeting the following fire-test characteristics.

1. Surface-Burning Characteristics: ASTM E 84
2. Flame spread index: 25 or less
3. Smoke developed index: 450 or less

1.07 MOCK-UP

A. Construct mock-up in accordance with Section 01 43 39 – Mock-ups.

B. Provide mock-up of specified water-resistive vapor permeable air barrier materials under provisions of Section 01 33 23 - Shop Drawings, Product Data and Samples.

C. Where directed by [engineer] [architect] [consultant], construct typical exterior wall panel, 6 foot long by 6 foot wide incorporating the sheathing board or substrate, sill pan protection system, window frame and attachment method, clips, strapping or masonry ties, attachment of insulation and detailing of water-resistive vapor permeable air barrier membrane application and lap seams.

1. Perform water spray test of mockup to demonstrate performance.

D. Allow 48 hours for inspection of mock-up by [engineer] [architect] [consultant] before proceeding with water-resistive vapor permeable air barrier work. Mock-up may remain as part of the Work.

1.08 PRE-INSTALLATION CONFERENCE

A. Contractor shall convene [one] week prior to commencing Work of this section, under provisions of Section 01 31 19 – Project Meetings.

B. Ensure all contractors responsible for creating a continuous plane of water and air tightness are present.

1.09 DELIVERY, STORAGE AND HANDLING

A. Refer to current Product Installation Instructions at www.vaproshield.com for proper storage and handling.

B. Deliver materials to the job site in undamaged and original packaging indicating the name of the manufacturer and product.

C. Store roll materials on end in original packaging. Protect rolls from direct sunlight and inclement weather until ready for use.

D. Wasted Management and Disposal

1. Separate and recycle waste materials in accordance with Section [01355 - Waste Management and Disposal], and with the Waste Reduction Work Plan.

1.10 COORDINATION

A. Ensure continuity of the self-adhered water-resistive vapor permeable air barrier system throughout the scope of this section.

1.11 ALTERNATES

A. Submit request for alternates in accordance with Section 01 25 00 – Substitution Procedures.

B. Submit requests for alternates a minimum of ten (10) working days prior to bid date.

C. Alternate submission to include:

1. Evidence that alternate materials meet or exceed performance characteristics of specified Product requirements as well as documentation from an approved independent testing laboratory certifying the minimum physical dimensions, tensile strength, fire burning characteristics, vapor permeance and air leakage rates of the self-adhered water-resistive vapor permeable air barrier membrane without the aid of primers or surface conditioners.
2. Manufacturer's complete set of details for self-adhered water-resistive vapor permeable air barrier membrane system showing a continuous plane of water and air tightness throughout the building enclosure.
3. Manufacturer of alternate materials has experienced in-house technical and field observation personal qualified to provide expert technical support

D. Acceptable alternates will be confirmed by addendum. Substitute materials not approved in writing prior to bid date shall not be permitted for use on this project.

1.12 WARRANTY

A. Provide manufacturer's standard material warranty in which manufacturer agrees to provide replacement material for the self-adhered water-resistive vapor permeable air barrier sheets installed in accordance with manufacturer's instructions that fails due to material defects within 20 years of the date of Purchase.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Primary self-adhered water-resistive vapor permeable air barrier membrane components and accessories must be obtained as a single-source to ensure total system compatibility and integrity.

1. Self-Adhered water-resistive vapor permeable air barrier membrane by VaproShield LLC., Gig Harbor, WA, Ph (866) 731-7663, Email: info@VaproShield.com, Website: www.vaproshield.com.

B. WATER-RESISTIVE VAPOR PERMEABLE AIR BARRIER MATERIALS (Basis of Design)

1. Primary self-adhered air barrier sheet membrane shall be WrapShield SA® Self-Adhered Water-Resistive Vapor Permeable Air Barrier Sheet by VaproShield, a zero VOC self-adhered vapor permeable air barrier sheet membrane consisting of multiple layers of UV stabilized spun-bonded polypropylene having the following properties:
   a. Color: Orange with allowable UV exposure for 180 days
   b. Air Leakage: <0.01 cfm/ft. sq. when tested in accordance with ASTM E 2357 and < 0.0000263 cfm/sq. ft. @ 75 Pa (0.000134 L/s/m sq @ 75 Pa) when tested in accordance with ASTM E 2178
   c. Water Vapor Permeance tested to ASTM E 96 Method B: 50 perms (2875ng/Pa.s.m^2)
   d. Water Resistance tested to AATCC 127, 550 mm hydrostatic head for 5 hours: No leakage
   e. Tensile Strength tested to ASTM D 882: 44.8 lbf/inch (78 N/mm), machine direction; 25 lbf/inch (43.8 N/mm), cross-machine direction
   f. Application Temperature: Ambient temperature must be above 20 degrees F
   g. Surface Burning Characteristics tested to ASTM E 84: Class A, Flame-spread index of less than 10, Smoke-development index of less than 15
   h. Physical Dimensions: 0.026 inches (0.65 mm) thick and 59 inches (1.5 m) wide and 8.26 oz per sq. yd.

C. WATER-RESISTIVE VAPOR PERMEABLE TRANSITION AND FLASHING MEMBRANE

1. Self-adhered air barrier transition and flashing membrane shall be VaproFlashing SA™ by VaproShield, a zero VOC self-adhered water-resistive vapor permeable membrane having the following properties:
   a. VaproFlashing SA™ Orange: 11-3/4 inches or 19 2/3 inches wide x 164 feet long
   b. Air Leakage: < 0.0000263 cfm/sq. ft. @ 75 Pa (0.000134 L/s/m sq @ 75 Pa) when tested in accordance with ASTM E 2178
   c. Water Vapor Permeance tested to ASTM E 96 Method B: 50 perms (2875ng/Pa.s.m^2)
   d. Water Resistance tested to AATCC 127, 550 mm hydrostatic head for 5 hours: No leakage

D. VAPROLIQUI-FLASH™ VAPOR PERMEABLE WATER RESISTIVE FLASHING FOR ROUGH OPENINGS

1. Window and door flashing shall be VaproLiqui-Flash by VaproShield, a liquid-applied vapor permeable air barrier flashing material with vapor permeance and resistance to air leakage properties compatible with the primary air barrier membrane.

SPEC WRITERS NOTE: With pressure equalized rain screen wall cladding systems such as composite wall panels and metal siding, air circulation and cavity ventilation is critical in allowing moisture to escape. VaproShield battens and ventilation strips ensures continuous air flow through-out the cavity for the life of the building. Include 2.1.G. for Water-Resistive Weather Barrier Batten and Ventilation Accessories.

E. WATER-RESISTIVE WEATHER BARRIER BATTEN ACCESSORIES

1. Water-resistive weather barrier batten and ventilation accessories by VaproShield shall be made of black PVC material
   a. VaproBatten™: Black vinyl extrusion with pre-formed fastener and moisture drainage channels configured to create a ventilated airspace between wall cladding and weather-resistive barrier.

2.02 PENETRATION SEALANT

A. Provide sealant for penetrations as recommended by manufacturer and as specified under Division 07 Section: Sealants. Appropriate sealants shall be Dow 758 or VaproLiqui-Flash.

PART 3 EXECUTION

3.01 GENERAL

A. Verify that surfaces and conditions are ready to accept the Work of this section. Notify [engineer] [architect] [consultant] in writing of any discrepancies. Commencement of the Work or any parts thereof shall mean acceptance of the prepared substrates.

B. All surfaces must be dry, sound, clean 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 ¼ inch in width to provide an even surface. Strike masonry joints full-flush.

C. Minimum application temperature self-adhered membrane and flashings to be above 20 degrees F (minus 6.0 degrees C).

D. Ensure all preparatory Work is complete prior to applying primary self-adhered vapor permeable air barrier sheet membrane.

E. Mechanical fasteners used to secure sheathing boards or penetrate sheathing boards shall be set flush with sheathing and fastened into solid backing.

3.02 COORDINATION OF SELF-ADHERED VAPOR PERMEABLE AIR BARRIER MEMBRANE INSTALLATION

A. Self-adhered vapor permeable air barrier sheets may be installed vertically or horizontally over the outside face of exterior sheathing board or substrate.

B. Complete detail Work around corners, wall openings, building transitions and penetrations prior to field applications.

C. Install self-adhered vapor permeable air barrier sheet over the outside face of exterior sheathing board or substrate, measure and pre-cut into manageable sized sheets to suit the application conditions.

D. Install self-adhered vapor permeable air barrier sheet complete and continuous to substrate in a sequential overlapping weatherboard method starting at bottom or base of wall and working up.

E. Stagger all end lap seams.

F. Roll installed membrane with roller to ensure positive contact and adhesion with substrate.

3.03 BUILDING TRANSITION CONDITIONS

A. Tie-in to structural beams, columns, floor slabs and intermittent floors, parapet curbs, foundation walls, roofing systems and at the interface of dissimilar materials with self-adhering air barrier transition and flashing membrane.

B. Align and position self-adhered air barrier transition and flashing membrane, remove protective film and press firmly into place. Provide minimum 3 inch lap on to substrates.

C. Ensure minimum 3 inch overlap at side and end laps of membrane.

D. Roll membrane and lap seams with roller to ensure positive contact and adhesion.

3.04 WINDOW, DOOR AND OTHER WALL OPENINGS

A. To avoid waste, predetermine best method and sequence to the install self-adhered air barrier transition and flashing membrane around window or wall openings subject to the opening size and installation of window, door or louver type.

B. Wrap self-adhered air barrier transition and flashing membrane into wall openings to cover sill, jambs and head. It is not required to install continuous sheets through corners.

C. Remove release film, align flashing membrane and apply pressure to ensure positive contact. Roll Lap seams to ensure adhesion. Provide lap seams to shed water.

D. Install preformed self-adhered corner flashing membrane into corners over flashing membrane.

E. Subject to window installation requirements, install preformed sill pan system and seal to installed self-adhered air barrier window flashing membrane with sealant.

F. Install windows in accordance with window manufacturer's details and cover nail flange with flashing tape. Install flashing tape along jamb and across head flanges of window and seal to installed self-adhered air barrier transition membrane. Roll tape to ensure positive contact to substrate. Seal exposed leading edge of tape.

G. For windows without nail flange, install specified aluminized tape around perimeter of opening to accommodate placement of backer rod and sealant between window frame and self-adhered vapor permeable air barrier membrane.

3.05 MECHANICAL EQUIPMENT PENETRATIONS

A. Mechanical pipe, electrical conduit and/or duct work must be secured solid into position prior to installation of self-adhered vapor permeable air barrier membrane.

B. Electrical services penetrating the wall assembly and self-adhered vapor permeable air barrier membrane must be placed in appropriate conduit and secured solid into position.

C. Install manufactured flanged penetration sleeves as recommended by sleeve manufacturer.

D. For straight sided penetrations, cut and fit self-adhered vapor permeable air barrier to accommodate sleeve, install specified single sided flashing tape to seal the air barrier membrane to ductwork or preformed flange sleeve.
E. For pipe penetrations, refer to manufacturer's standard details.

3.06 VERTICAL APPLICATIONS
A. For vertical applications, align sheets with an 'inside' or 'outside' corner to avoid wrinkles and miss-alignment of subsequent applications.
B. Measure and pre-cut into manageable sized self-adhered sheets to suit the application conditions.
C. Hang self-adhered sheets over wall and extend down to lowest point of wall. Allow for excess material at bottom of wall to accommodate tie-ins and connections to adjacent surfaces.
D. Align and position self-adhered membrane, remove release film and press firmly into place. Provide minimum 3 inch overlap at side and end laps of membrane. Roll membrane and lap seams with roller to ensure contact and adhesion.
E. Continue to remove release film and apply pressure to ensure positive contact onto wall substrate.
F. Install subsequent sheets of self-adhered vapor permeable air barrier sheets in overlapping weatherboard format. Ensure sheets lay smooth and flat to surfaces. Roll membrane and lap seams with roller to ensure contact and adhesion.

3.07 HORIZONTAL APPLICATIONS
A. For horizontal applications, align sheets and begin installation of water-resistive weather barrier at bottom or lowest point of wall.
B. To avoid wrinkles and miss-alignment of subsequent applications it is recommended to pre-mark or "Snap" a level line to work from. Measure and pre-cut into manageable sized sheets to suit the application conditions.
C. Allow for excess material at bottom of wall to accommodate tie-ins and connections to adjacent surfaces.
D. Align and position self-adhered membrane, remove release film and press firmly into place. Provide minimum 3 inch overlap at all side and end laps of membrane. Roll membrane and lap seams with roller to ensure contact and adhesion.
E. Continue to remove release film and apply pressure to ensure positive contact onto wall substrate.
F. Install subsequent sheets of self-adhered vapor permeable air barrier sheets in overlapping weatherboard format. Ensure sheets lay smooth and flat to surfaces. Roll membrane and lap seams with roller to ensure contact and adhesion.

3.08 BATTENS AND VENTILATION STRIPS FOR RAIN SCREEN CLADDING SYSTEMS
A. Provide and install specified battens and ventilation strips under cladding systems.
B. Install horizontal starter strip or vent strip at base of wall, vertical battens and top vent strip, secure into solid backing ready for installation of cladding system.
C. Coordinate spacing of battens and vent strips to accommodate cladding system.

3.09 FASTENING CLIPS AND MASONRY TIES
A. Install clips and masonry ties over primary self-adhered vapor permeable air barrier membrane.
B. Secure clips and masonry ties with corrosion-resistant, or stainless steel screws with gasketed fasteners.
C. Consult VaproShield Technical Services for recommendations on appropriate masonry tie types and methods to seal penetrations.

3.10 FIELD QUALITY CONTROL
A. Make notification when sections of work are complete to allow review prior to covering self-adhered water-resistive vapor permeable air barrier system.
B. Owner to engage independent consultant to observe substrate and membrane installation prior to placement of cladding systems and provide written documentation of observations.

3.11 PROTECTION
A. Protect wall areas covered with self-adhered water-resistive vapor permeable air barrier from damage due to construction activities, high wind conditions, and extended exposure to inclement weather.
B. Review condition of self-adhered water-resistive vapor permeable air barrier prior to installation of cladding. Repair, or remove and replace damaged sections with new membrane.
C. Recommend to cap and protect exposed back-up walls against wet weather conditions during and after application of membrane, including wall openings and construction activity above completed self-adhered water-resistive vapor permeable air barrier installations.
D. Remove and replace water-resistive weather barrier membrane affected by chemical spills or surfactants.

END OF SECTION

VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

1. Product Name

WrapShield SA® Self-Adhered
Water Resistive Vapor Permeable Air Barrier Sheet Membrane

2. Manufacturer

VaproShield, LLC.
915 26th Avenue, NW #C5
Gig Harbor, WA 98335
Phone: (866) 731-7663 USA / (866) 871-8263 Canada
Fax: (253) 858-3297
Email: info@vaproshield.com or info@vaproshield.ca
Web: www.vaproshield.com or www.vaproshield.ca

3. Product Description

BASIC USE AND APPLICATIONS

WrapShield SA® Self-Adhered sheet membrane is used above grade, behind rain screen wall cladding assemblies such as pressure equalized cladding systems incorporating composite and metal materials, masonry and stone veneers, stucco and EIFS.

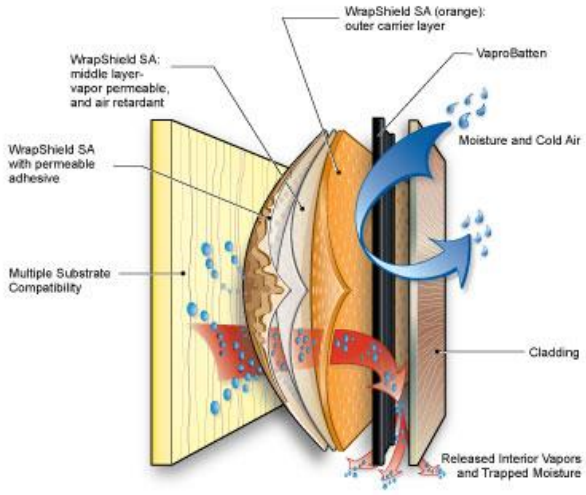
BENEFITS

WrapShield SA® Self-Adhered a fully self-adhered weather resistive and air barrier sheet membrane fully bonds to almost any substrate, does not require the use of primers, emits no VOC's, does not require special equipment for installation. Installation: WrapShield SA Self-Adhered keeps construction schedules moving as it can be installed in extreme temperatures of 20°F (-6°C) and rising. The ability to install WrapShield SA Self-Adhered horizontally or vertically also helps reduce labor requirements.

With a vapor permeance rating of 50 perms WrapShield SA® Self-Adhered prevents air leakage and allows the wall assembly to breathe or 'dry-out' as necessary to adapt to the seasonal changing of the building which helps to ensure good indoor air quality while reducing conditions conducive to mold, mildew, lumber distortion and metal corrosion.

Multiple Substrate Compatibility:

- Exterior Gypsum
- DensGlass® Gold
- Most Rigid Insulation
- Precast Concrete
- Concrete Block
- Cast-in-place Concrete
- Plywood
- Pre-painted Steel
- Galvanized Metal
- Aluminum (Painted/Mill)
- Anodized Aluminum
- Rigid Vinyl
- GlasRoc®



MATERIAL

WrapShield SA Self-Adhered weather resistive and air barrier sheet membrane is manufactured from a zero VOC, fully self-adhered weather resistive, vapor permeable, air barrier, sheet membrane consisting of multiple layers of UV stabilized, spun-bonded polypropylene fabric.

SIZE: 59 inches by 164 feet Roll (1.5m by 50 m)
COLOR: Orange

4. Technical Data

Tested in accordance with ICC-ES AC 38 criteria to meet IBC and IRC requirements for Weather Resistive Barriers.

SUSTAINABLE DESIGN BENEFITS

WrapShield SA Self-Adhered Water-Resistive Vapor-Permeable Air Barrier Sheet Membrane is highly UV resistant: It can remain exposed for up to 180 days prior to installation of cladding system, although VaproShield recommends covering with cladding as soon as possible. WrapShield SA Self-Adhered protects against water intrusion but allows building materials that may have become wet during the construction phase to dry out, reducing the risk of wood rot, deterioration or corrosion.

RELATED LEED CREDITS

WrapShield SA Self-Adhered membrane contributes to Environmental Quality ("EQ") credit 4.1: Low-Emitting Materials: Adhesives & Sealants, under United States Green Building Council's Rating System for New Construction and Major Renovations (LEED-NC), version 2.2, core and shell (LEED-CS), version 2.0.

WRAPSHIELD SA® SELF-ADHERED Testing
Acceptance Criteria for Weather Resistive Barriers | AC 38 (polymeric-based barrier

PROPERTY	TEST/STANDARD	RESULT
Roll Length		164' (50m)
Roll Width		59'' (1.5m)
Nominal Thickness	Calibrated Deadweight Micrometer	26 mils (0.65mm)
Basis Weight	Electronic Weigh Scale	8.2575 oz/sq. yd.
Roll Weight		The weight is 54 lbs (24 kg)
Application Temperature		Air & surface minimum + 20ºF
Service Temperature		- 40ºF to 180°F (-40ºC to 82.2ºC)
Water Resistance	AATCC - 127	PASS (22 in. head of water – 5 hrs)
Air Permeance	ASTM 2178	0.0000263 cfm/ft²
		0.000134 L/s/m²
Air Barrier	ASTM E 2357.05*	PASS <0.01 cfm/ft²
Water Vapor Transmission	ASTM E96 – Method B	50 Perms
Peel Adhesion	ASTM D3330	37.6 oz/in
Tensile Strength	ASTM D882	MD 44.8 lbf/in CD 25.1 lbf/in
Flame Spread	ASTM E-84	10 – Class A
Smoke Development Index	ASTM E-84	15 – Class A

As tested per ASTM E 2357 on the following substrates: DensGlass® Gold, CMU Block

5. Installation

PREPARATION

- All surfaces must be dry, sound, clean 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 ¼ inch in width to provide an even surface. Strike masonry joints full-flush.
- WrapShield SA Self-Adhered membrane requires a drainage cavity or rain screen system to be incorporated into all WRB/AB installations. Black VaproBattens™ accomplish this and are available as a corresponding accessory.
- Use VaproLiqui-Flash™ vapor permeable water resistive flashing for window and door rough openings.
- Self-adhered air barrier transition and flashing membrane shall be VaproFlashing SA™ Self-Adhered, a zero VOC self-adhered water-resistive vapor permeable membrane.
- See www.VaproShield.com for complete installation instructions.

STORAGE AND HANDLING

Store material rolls on end in original packaging. Protect rolls from direct sunlight and inclement weather until ready for use.

GENERAL

- See www.VaproShield.com for complete installation instructions and instructional videos.

LIMITATIONS

- WrapShield SA Self-Adhered should be covered within 180 days of installation
- Minimum recommended application temperature for self-adhered membrane and flashings to be above 20 degrees F (minus 6.0 degrees C).
- Contamination of WrapShield SA Self-Adhered membrane with building site chemicals which make it more wettable (e.g., surfactants), adversely affects its water resistance and therefore its contribution to the water resistance of the overall wall system.
- The WrapShield SA Self-Adhered membrane should not be subjected to asphaltic materials, chemicals, surfactants, or cleaning compounds that could affect the water resistance of the fabric surface; if exposed, replace affected fabric.

6. Availability

VaproShield products are available throughout North America.

7. Warranty

A 20 year product warranty is available.

VAPROSHIELD, LLC

MATERIAL SAFETY DATA SHEET

Provided by: VAPROSHIELD, LLC
915 26TH Ave. NW, #C-5
Gig Harbor, WA 9335
866-731-7663

This form is designed to meet the requirements of the U.S. Labor Department OSHA form no 174.

SECTION I – PRODUCT IDENTIFICATION

Product: WrapShield SA™
Emergency Assistance: 866-731-7663
Generic Name: Self-adhered, vapor-permeable, air-barrier membrane
Chemical Name: N/A
Chemical Family: Polypropylene
Formula: N/A - Sheet consisting of non-woven polypropylene fibers with non-hazardous fibers with non-hazardous adhesives based on an acrylic ester polymer.

SECTION II – HAZARDOUS COMPONENTS

NONE
Emergency Overview: Polypropylene sheet with non-hazardous adhesive

SECTION III – PHYSICAL DATA

Boiling Point Range: N/A
Vapor Pressure: N/A
Vapor Density: N/A
Solubility in Water: Insoluble
Appearance and Odor: Numerous Colors/No odor
Specific Gravity: N/A
Melting Point Range: 329 to 338 degrees Fahrenheit
Evaporation Rate: N/A

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flash Ignition Temperature: 662 degrees Fahrenheit
Flammable Limits: N/A
Extinguishing Media: Carbon dioxide, dry chemical, foam, water fog, and water spray
Special Fire Fighting Procedures: Use water spray to cool fire exposed surfaces and to protect personnel.
Unusual Fire and Explosion Hazards: None

SECTION V – REACTIVITY DATA

Stability: Stable
Conditions to Avoid: Overheating
Incompatibility (Material to Avoid): Avoid contact with strong oxidizing agents
Hazardous Decomposition Products: None
Hazardous Polymerization: N/A

Aug 9th 2013

SECTION VI – HEALTH HAZARD DATA

Primary Routes of Entry:

- **Eyes:** None
- **Inhalation:** None
- **Ingestion:** Not a normal exposure
- **Skin:** None

Permissible Exposure Level: N/A

Chemicals contained herein listed as carcinogens or potential carcinogens:
NTP: None **IARC:** None **OSHA:** None

Effects of Overexposure:

- **Eyes:** N/A
- **Inhalation:** N/A
- **Ingestion:** Acute oral LD50 is greater than 2000mg/Kg
- **Skin:** N/A.

Medical Conditions generally aggravated by exposure: N/A **Emergency and First Aid Procedures:**

- **Eyes:** Flush with water.
- **Inhalation:** N/A
- **Ingestion:** Contact a physician
- **Skin:** Remove with waterless hand cleaner or soap and water

SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled: N/A

Waste disposal method: Dispose of in accordance with Federal, State and local regulations. Product can be disposed of with regular refuse, construction waste or household trash into a sanitary landfill.

Precautions to be taken in handling and storing: Do not store near flame, heat or strong oxidizing agents.
Product rolls should be stored on ends or side on a flat surface. Product should be stored in a clean, dry environment, and out of direct sunlight. Protect against physical damage and moisture.

SECTION VIII – CONTROL MEASURES

Exposure Guidelines: No dust or vapor exposures anticipated.

Personal Protective Equipment: Not required. Avoid contact with eyes and skin. Gloves can keep hands cleaner and free of adhesive. Safety glasses can protect eyes against mechanical contact of product with eyes. Sturdy footwear or steel-toed safety shoes provide protection when handling rolls of product. **Ventilation:** N/A

SECTION VIIII – NOTES

Note: N/A = not applicable **Date Prepared:** Aug 9th 2013

Aug 9th 2013

VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

WRAPSHIELD SA® SELF-ADHERED

Water Resistive, Vapor Permeable Air Barrier Sheet

INSTALLATION INSTRUCTIONS

BEST PRACTICES

- WrapShield SA Self-Adhered building layout should be planned prior to application to minimize waste, this process will assist locating penetrations that will need to be correctly detailed to ensure a weather and air tight installation.
- WrapShield SA Self-Adhered can be installed in a vertical or horizontal direction.
- Always install in a "weatherboard or shingle fashion" with the lower courses lapped under the upper courses.
- All penetrations including windows and doors must be installed in proper sequence to ensure a "weatherboard or shingle fashion" end result.
- When a seam is required within 24" of an inside and outside vertical corners, an overlap should be minimum 6".
- Inside and outside vertical corners should be minimum 6" (15 cm) of overlap.
- Vertical seams should be staggered from floor to floor, or separated by a WrapShield SA Self-Adhered horizontally applied strip.
- Use a roller (Figure 1) to ensure adhesion at seams (overlaps).
- Sustains six (6) months (180) days UV and climate exposure prior to cladding installation.

Figure 1

SUBSTRATE INFORMATION

- The substrate condition is crucial to the adhesion performance of any adhesive membrane.
- Substrates must be clean and free of any contaminants.
- Substrate surface must be dry to the touch with the ambient temperature above 20°F (-6°C).
- WrapShield SA Self-Adhered can be applied to a wide variety of sheathing substrates: GlasRoc • DensGlass Gold • Most rigid insulation • Pre-painted steel Precast concrete • Concrete block • Plywood • Aluminum (painted or mill finish) Cast-in-place concrete • Galvanized metal • Rigid vinyl • Steel • Anodized aluminum
- OSB is not an approved substrate for WrapShield SA Self-Adhered, use WrapShield IT Integrated Tape. If you have questions regarding substrates contact VaproShield Technical Team, 866-731-7663 opt. 5, or technical@vaproshield.com.
- **PRIMER IS NOT REQUIRED.**

INSTALLATION PRACTICES

During the installation process, WrapShield SA Self-Adhered must be protected at the leading edge to ensure liquid water does not travel behind the membrane.

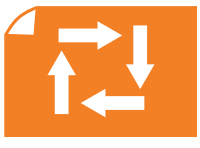
ADHESIVE CURING TIME

- Membrane is easily repositioned for up to 30 minutes after initial installation
- Normal curing time is approx. 6 hours.
- Full adhesion will vary depending on job site weather conditions.

FLOOR LINE MOVEMENT

- Buildings are designed to accommodate thermal and seismic movement.
- WrapShield SA Self-Adhered must be installed to allow this movement throughout the life of the structure.
- To accommodate floor-line movement: Limit coverage area to a single floor and shingle subsequent layers over the top leading edge.

WRAPSHIELD SA SELF-ADHERED IS NON-DIRECTIONAL



- Install pieces vertically or horizontally.
- Ensure "weatherboard manner" by installing pieces over the top of the pieces below.
- Pieces are easily cut to size.

PENETRATIONS

- Window and door penetrations can be detailed pre or post installation of the field membrane.
- Always ensure weatherboard result is achieved.

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VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

WRAPSHIELD SA® SELF-ADHERED

Water Resistive, Vapor Permeable Air Barrier Sheet

INSTALLATION INSTRUCTIONS

View instructional videos at www.VaproShield.com

ORIGINAL PACKAGING FUNCTIONS AS DISPENSER

- Keep WrapShield SA Self-Adhered in original packaging
- Carefully lift one end of the product out of the box and slide the plastic wrap towards the opposite end.
- Insert roll into end.

- Replace the roll in the box/dispenser and carefully remove the tape in the middle of the roll.
- Keep plastic roll cover to protect partial rolls during installation.

MANAGEABLE LENGTHS

- Pre-cut material into individual manageable lengths by pulling material off the main roll to desired length.
- Cut material square to the factory edges.
- Re-roll material same direction it came off the roll, with the release film outward.
- Cut material to desired length with extended blade razor knife.
  Tip: pre-cut material for desired lengths for rough openings. Label as needed on release film with marker.

SINGLE WORKER VS. TWO WORKER INSTALLATION

- Using the material at its full width, 59" (1.5 m), vertical installation can be easily accomplished by a single worker.
- Horizontal installation of the full width material is best accomplished by two workers.
- Partial width rolls are easily installed by a single worker.
- View details of installation sequence and view videos on our website for further clarification.

VERTICAL AND HORIZONTAL INSTALLATION

Horizontal installation of the WrapShield SA Self-Adhered material is similar to the vertical installation method. The material can be applied either left to right, or right to left.

BEST PRACTICE INSTALLATION SEQUENCE

1. Snap a level chalk line for guidance
2. Pre-cut material to desired length
3. Roll material with release film facing OUTWARD
4. Starting at a corner of the roll, peel back approx. 6" (15 cm) of release film
5. Cut the release film with razor knife and tear the cut portion of the release film exposing approx. 6" (15 cm) of glued surface
6. Using hand pressure, lightly apply the exposed glue surface to the substrate
7. Starting in the middle, use your hands to smooth out air bubbles, releasing the air to each side
8. APPLIES ONLY TO VERTICAL INSTALLATION - Allow the rolled up material to drop down the wall, with the remainder of the release film still attached, checking for proper alignment
9. Reposition as needed - the material is very forgiving allowing for easy re-alignment
10. When aligned, apply heavy hand pressure across the entire adhered section
11. Roll up the material with release film facing OUTWARD
12. Slowly pull the release film down the wall, allowing the rolled up material to unfurl
13. Lightly smooth out air bubbles with wallpaper trowel
14. Continue until all the release film has been removed
15. Pull back and reposition material (if necessary) as it unfurls
16. Apply heavy pressure to the entire substrate to ensure full adhesion
17. Use a roller to ensure adhesion at seams (overlaps). Figure 1
18. Proceed to next step, ensuring a 3" (8 cm) minimum overlap to the adjoining material, always in a weatherboard manner

INSTALLATION BEST PRACTICES

- Avoid scoring the membrane at locations where the material overlaps onto the adjacent piece.
- Allow the top layer of material to span across the underlying layer without attempting to force the material into a 90° bend.
- Avoid stretching the material during installation at inside and outside corners.
- A full 6" (15 cm) overlap in either direction is recommended vertically at inside and outside corners.

STORAGE

- Store vertically • Keep dry • Between 40° F and 120° F (4°C - 49°C)

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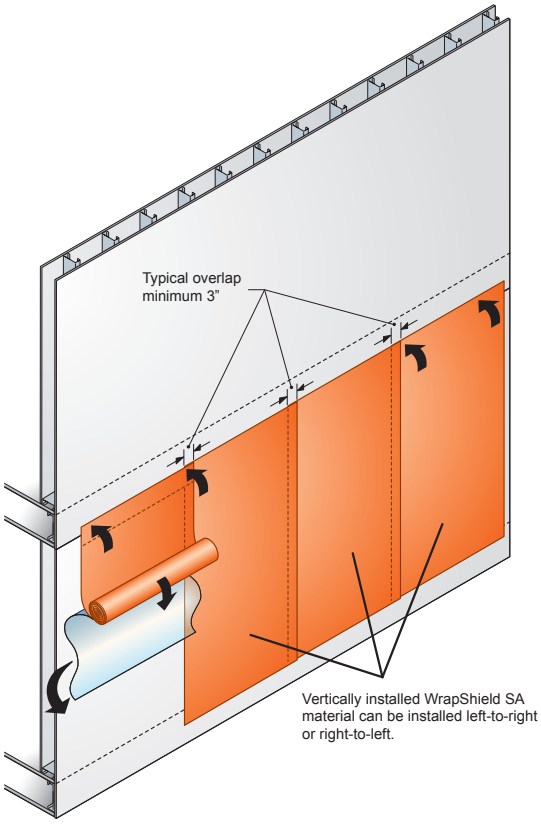
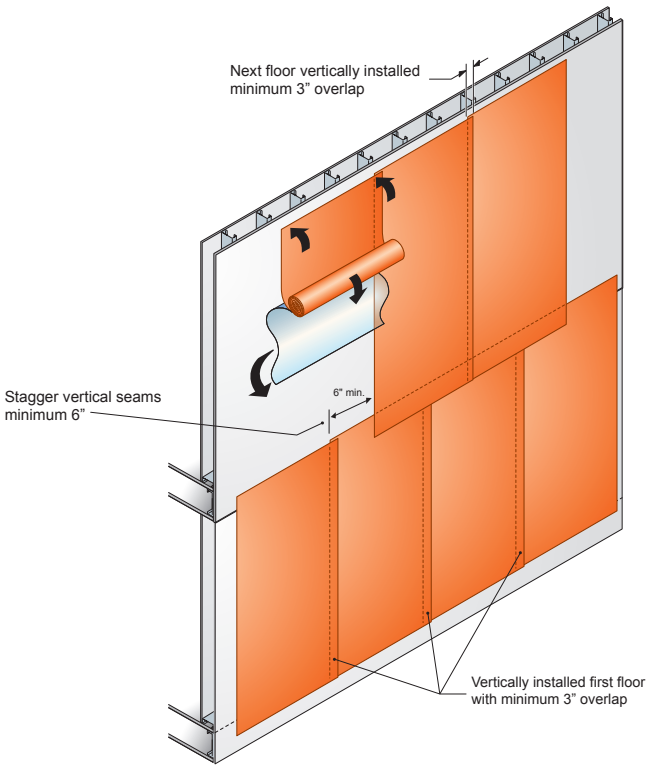
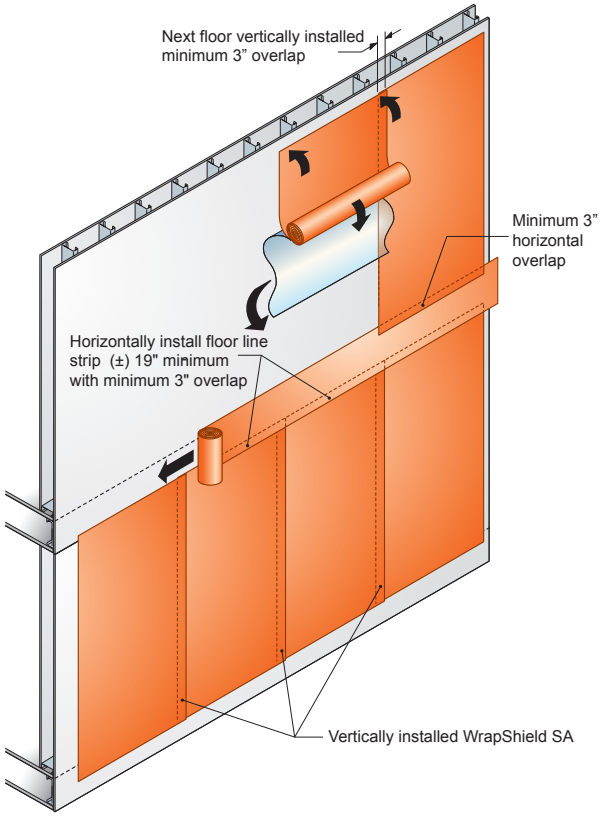
✱ THIS IS NOT A SEQUENCE OF INSTALLATION STEPS. EACH IS A SEPARATE SITUATION.



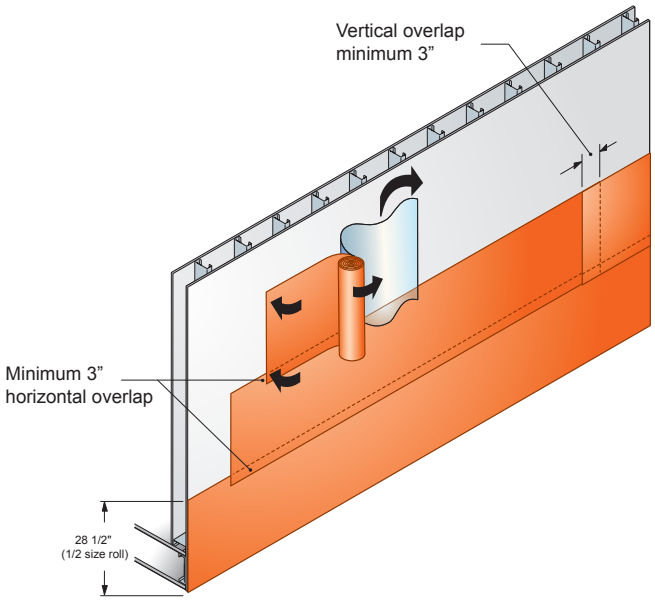
VERTICAL INSTALLATION



MULTI FLOOR VERTICAL OVERLAP



VERTICAL INSTALLATION
HORIZONTAL FLOOR LINE



HORIZONTAL INSTALLATION

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VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

VaproShield LLC 20-Year Product Warranty

Job #:
Purchase Date:
Installation Date:

Owner Name:
Address:
City/State/Zip:

Project Name:
Address:
City/State/Zip:

Installer Name
Address:
City/State/Zip:

PRODUCT:

Date Issued:

LIMITED PRODUCT WARRANTY AND DISCLAIMER*:

A) PRODUCTS TO WHICH WARRANTY APPLIES:

1). WALLSHIELD®
2). WRAPSHIELD®
3). WRAPSHIELD SA® SELF-ADHERED
4). WRAPSHIELD RS™
5). REVEALSHIELD™
6). REVEALSHIELD SA™ SELF-ADHERED
7). SLOPESHIELD®
8). SLOPESHIELD SA® SELF-ADHERED
9). VAPROFLASHING™
10). VAPROFLASHING SA™
11). RevealFlashing™
12). RevealFlashing SA™ SELF-ADHERED
13). FACTORY FORMED CORNERS™

B) LIMITED WARRANTY:

The WallShield, WrapShield, WrapShield SA, WrapShield RS, RevealShield, RevealShield SA, SlopeShield and SlopeShield SA products are suited for their intended use as an underlayment, weather resistive barrier, or as an air barrier. VaproShield will warrant its products for a period of twenty (20) years from the date of purchase. VaproShield will replace any faulty product, provided the product used is installed per the published installation instructions and details. VaproShield installation instructions are provided with the products and/or are available at www.vaproshield.com, or by calling VaproShield toll free at 1-866-731-7663.

This warranty is transferable upon sale of the project, but in no event does it extend beyond 20 years from the date of original purchase of the product. Any and all claims must be made in writing within 20 business days after the owner discovers or obtains knowledge of any defect in the product(s). VaproShield must be given reasonable opportunity to inspect the allegedly defective product and all damage prior to alteration or removal of the product or any surrounding building components.

All claims must be made in accordance with the claims and inspection procedure noted herein.

This warranty shall not apply to, and VaproShield shall not be liable for, any damages arising in whole or in part from any one or more of the following:

1) WallShield, WrapShield, WrapShield SA, WrapShield RS, RevealShield, RevealShield SA, SlopeShield and SlopeShield SA that is not stored or installed in accordance with VaproShield's installation instructions in effect at the time of the installation.

2) Improper building practices or design not in accordance with the applicable building code or industry standards, or any deviation from approved construction plans or specifications.

3) Damage to WallShield, WrapShield, WrapShield SA, WrapShield RS, RevealShield, RevealShield SA, SlopeShield and SlopeShield SA resulting from causes other than normal weather conditions, including impact of falling objects, "Acts of God," earthquakes, hurricanes, flood, fire, hailstorms, high winds, cascading roof/floor water, ponding water, immersion in water, or improper installation of any building component.

4) Defects in the structure or a component of the structure (e.g., window, door, or wall system), premature deterioration of the building materials, or non-standard use of the VaproShield products.

5). Contamination of membrane with building site chemicals including, but not limited to, surfactants or substances that adversely affects its water resistance.

OPEN JOINT APPLICATIONS: VaproShield will warrant material for any open jointed cladding systems when VaproShield's Best Practices, details, and installation instructions (in effect at the time of the installation) are followed.

C) DISCLAIMER:

This warranty is limited to product replacement. This warranty is the sole warranty and is being provided in lieu of any other warranties, whether express or implied. Neither VaproShield LLC nor any of its affiliated companies, including product manufacturers, suppliers, representatives or distributors shall be liable for labor costs, consequential damages (such as personal injuries or damage to property) of any kind, loss of profits, loss of use, or any other damage or injury, whether known or unknown, that is caused or alleged to have been caused in whole or in part by any VaproShield product.

This Warranty is not valid unless and until Vaproshield product has been paid for in full.

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VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

1. Product Name

VAPROLIQUI-FLASH™ Vapor Permeable Liquid Applied Flashing Membrane

2. Manufacturer

VaproShield, LLC.
915 26th Avenue, NW #C5
Gig Harbor, WA 98335
Phone: (866) 731-7663 USA / (866) 871-8263 Canada
Fax: (253) 858-3297
Email: info@vaproshield.com or info@vaproshield.ca
Web: www.vaproshield.com or www.vaproshield.ca

3. Product Description

OVERVIEW

Use VAPROLIQUI-FLASH as a liquid flashing membrane in rough openings of structural walls.

VAPROLIQUI-FLASH allows same day installation of windows, doors and other wall assembly, waterproofing or air barrier components.

Suitable for all climates, bonds directly to damp or dry surfaces and cures under a variety of weather conditions. It simplifies the process of producing watertight details in new or existing construction.

Appropriate for vertical or horizontal above-grade applications to concrete, masonry, natural stone, structural sheathing, architectural metal panels, painted metals, glass, PVC, FRP, EPDM, all VaproShield WRB and Air Barrier membranes, and most other building materials.

BENEFITS

- Solvent free. Isocyanate free. Complies with all VOC regulations.
- Silane functional polymer provides superior long term adhesion, crack bridging and weathering characteristics.
- Bonds to most common building materials without priming to produce a durable, structural, weather-tight seal which is not subject to tearing or displacement when subjected to wind loads during constructions.
- Will not tear or lose effectiveness when exposed to weather during construction.
- May be exposed to weather for up to 6 months without compromising performance.
- Single component formulation saves time and requires no mixing.
- Easy to gun and spread in all climates.
- Produces an opaque membrane when installed at the recommended 12-15 wet mils to simplify inspection and quality control.
- Bonds and cures in wet weather and on damp substrates.
- Paintable with most paints after 2 hours.
- Compatible with most urethane, silicone and acrylic sealants and coatings.
- No shrinkage. No staining. No yellowing.
- Breathable – allows damp surface to dry.
- Will not support mold growth.
- Cured service temperatures: -50°F (-45°C) to 350°F (175°C).
- Meets IITS-0230C and ASTM-C-920.

Use VAPROLIQUI-FLASH as a liquid flashing membrane in rough openings of structural walls.

MATERIAL

VAPROLIQUI-FLASH is a gun-grade waterproofing, adhesive and detailing compound that combines the best of silicone and polyurethane properties. This single-component, 99% solids, Silyl-Terminated-Poly-Ether (STPE) is easy to gun, spread and tool to produce a highly durable, seamless, elastomeric flashing membrane.

4. Regulatory Compliance

VOC COMPLIANCE

VAPROLIQUI-FLASH is compliant with the following national, state and district VOC regulations:

- ✓ US Environmental Protection Agency
- ✓ California Air Resources Board SCM Districts
- ✓ South Coast Air Quality Management District
- ✓ Maricopa County, AZ
- ✓ Northeast Ozone Transport Commission

5. Technical Data

VAPROLIQUI-FLASH™	
FORM	black, gun-grade sealant
SPECIFIC GRAVITY	1.45 - 1.60
pH	Not Applicable
WT/GAL	12.5 lbs./gal
ACTIVE CONTENT	99%
TOTAL SOLIDS	99%
VOC CONTENT	30 g/L maximum
FLASH POINT	No data
FREEZE POINT	No data
SHELF LIFE	1 year in unopened, factory-sealed container
CURED PROPERTIES	
Hardness, Share A	40-45
Tensile Strength	180 psi
Elongation at Break	400%
Water Vapor Transmission	14 perms @ 12 mils
Peel Strength	12 pli
Accelerated Weathering	Passes
Surface Burning ASTM E 84	Flame Spread: 0 Smoke Developed: 15 NFPA and ICC Class A Building Material
Staining	Passes
Corrosive Properties	Non-corrosive
UNCURED PROPERTIES	
Cure Rate	3/16 inch thickness/24 hours

6. Installation

APPLICATION
Before use, read "Preparation" and "Safety Information."

DILUTION
Apply as packaged. Do not dilute or alter, or use for applications other than specified. No mixing required.

SIZES/COVERAGE:
VAPROLIQUI-FLASH is available in 20 oz. sausages.
Coverage varies based on surface texture and irregularities. Theoretical coverage rates are calculated. Practical coverage rates are based on field experience, applied to irregular surfaces with varying surface textures.

VAPROLIQUI-FLASH Membrane Estimator		
Thickness	**Theoretical**	**Practical**
12 - 15 mils.	16-21 sq.ft. per 20 oz. sausage	15-19 sq.ft. per 20 oz. sausage

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

Protect people, vehicles, property, plants and all other surfaces not intended to receive VAPROLIQUI-FLASH.

Remove and replace damaged sheathing.

VAPROLIQUI-FLASH is fully compatible with urethane or silicone sealants.

Ensure positive drainage at all rough openings.

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.

SURFACE AND AIR TEMPERATURES
Surface and ambient temperatures should be 35°F (2°C) and rising and below 100°F (38°C) during application and drying. Wind and high temperatures will accelerate drying of VAPROLIQUI-FLASH. If air or surface temperatures exceed 95°F (35°C), apply VAPROLIQUI-FLASH to shaded surfaces and before daytime air and surface temperatures reach their peak.

Though VAPROLIQUI-FLASH tolerates rain immediately after installation, do not apply to surfaces with standing water or frost.

EQUIPMENT
Apply using a professional caulking gun. Use a DRY joint knife, trowel, or spatula to spread the product. Do not use soapy water when tooling or spreading.

CURING AND DRYING
At 70°F (21°C) and 50% relative humidity, product skins within 30 minutes and dries in 4 hours. Paintable with most paints after 2 hours.

VAPROLIQUI-FLASH is moisture curing. Low temperatures and low relative humidity slow dry time. High temperatures and high relative humidity accelerates dry time.

STORAGE & HANDLING
Store VAPROLIQUI-FLASH 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. When stored at or below 80°F (27°C) VAPROLIQUI-FLASH has a shelf life of 12 months after the date of manufacture. This shelf life assumes upright storage of factory-sealed containers. Do not double stack pallets. Dispose of unused product and container in accordance with local, state and federal regulations.

LIMITATIONS

- Not for use in place of appropriate through-wall flashing.
- Not for use below grade or in locations designed to be continuously immersed in water.

CLEANUP

Clean tools and equipment with mineral spirits or similar solvent immediately after use. Follow all safety precautions. Remove cured VAPROLIQUI-FLASH mechanically using a sharp-edged tool.

7. Safety Information

VAPROLIQUI-FLASH contains calcium carbonate and may cause eye and skin irritation. Use with adequate ventilation, safety equipment and jobsite controls during application and handling. Read the full label and MSDS for precautionary instructions before use.

FIRST AID

Ingestion: DO NOT induce vomiting. DO NOT give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

Eye Contact: In case of contact with eyes, lips or mouth, flush thoroughly with water. If irritation develops, consult a physician.

Skin Contact: Wash with fresh water. Get medical attention if irritation persists.

Inhalation: Remove to fresh air. If victim is having trouble breathing, remove to medical care.

24-Hour Emergency Information: INFOTRAC at 800-535-5053.

8. Availability

VaproShield products are available from qualified representatives throughout North America; contact VaproShield or go to www.vaproshield.com or www.vaproshield.ca for local contact information.

9. Warranty

Information and recommendations are based on our research and the research of others, and are believed to be accurate. No guarantee of their accuracy is made because we cannot anticipate every application or variations encountered in building surfaces, job conditions and methods used. The purchasers shall make their own tests to determine the suitability of such products for a particular purpose. VaproShield has tested this product with our Vapor Permeable Water Resistant and Air Barrier Membranes only, and have found the product to be fit for use with our membranes.

Apply using a profesisonal caulking gun.

Use a DRY joint knife, trowel, or spatula to spread.

It simplifies the process of producing watertight details in new or existing construction.

VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

SAFETY DATA SHEET

Issue Date 2016.07.28

SECTION 1 – PRODUCT IDENTIFICATION

Product Name:	VaproLiqui-Flash™	
Product Codes:	70400	
Manufacture:	VAPROSHIELD, LLC 915 26TH Ave. NW, #C-5 Gig Harbor, WA 9335 866-731-7663	
Product Information:	8:00 AM – 5:00 PM PST Monday-Friday	1-866-731-7663
Emergency Contact:	24/7 INFOTRAC:	1-800-535-5053
Chemical Name:	N/A	
Chemical Family:	Silyl Terminated Polyether	
Formula:	Mixture - N/A	

SECTION 2 - HAZARDS IDENTIFICATION

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION:

Hazard Symbols/Pictogram: GHS08

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: This product is a past/Gel Liquid.
HEALTH HAZARDS: May damage fertility or the unborn child.

PRECAUTIONARY STATEMENTS:

PREVENTION: Obtain special instructions before use
Do not handle until all safety precautions have been read and understood Use personal protective equipment as required
RESPONSE: IF exposed or concerned: Get medical advice/attention
STORAGE: Store locked up
DISPOSAL: Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC) Other Information
1.78002% of the mixture consists of ingredient(s) of unknown toxicity

SECTION 3 - COMPOSITION/INFORMATION

Percentages of the following:

Component	CAS-No.	Weight - %
Limestone	1317-65-3	15 - 40
Proprietary - Silyl Terminated Polyether	Undisclosed	10 - 30
Precipitated Calcium Carbonate	471-34-1	10 - 30

SECTION 3 - COMPOSITION/INFORMATION (Continued)

Percentages of the following:

Component	CAS-No.	Weight - %
Polypropylene glycol	25322-69-4	10 - 30
Stearic acid	57-11-4	1 - 5
Aminoethyl aminopropyl trimethoxy silane	1760-24-3	1 - 5
Dibutyltin Diacetyldiacetonate	22673-19-4	0.1 - 1

SECTION 4 - FIRST AID MEASURES

Emergency Overview:

General advice If symptoms persist, call a physician.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact Wipe off material with a dry cloth. Wash skin with soap and water. If symptoms persist, call a physician.

Inhalation Remove to fresh air. Call a physician.

Ingestion Do NOT induce vomiting. Drink plenty of water. Rinse mouth. If symptoms persist, call a physician.

Self-protection of the first aider Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed:

Symptoms May cause irritation. May be harmful if swallowed.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5 - FIRE-FIGHTING MEASURES

Flash point: Not Applicable

Auto ignition temperature: No Data

Fire and Explosion Hazard: Hazardous combustion products: No information available.

Firefighting Instructions: Wear self-contained breathing apparatus and protective suit. Use extinguishing measures that are appropriate for any surrounding fires.
Caution: Use of water spray when fighting fire may be inefficient.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Environmental precautions: Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

Methods for containment: Prevent further leakage or spillage if safe to do so.

Methods for cleaning up: Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

Storage: Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children

Incompatible materials: Acids incompatible with oxidizing agents.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protection Equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin and body protection: Wear protective gloves and protective clothing.

Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations: Avoid contact with eyes, skin and clothing. Wash contaminated clothing before reuse. Use personal protective equipment as required.

Exposure Guidelines

Exposure Limit Values

Chemical Name	PEL (OSHA)	TLV (ACGIH)	IDLH (NIOSH)
Limestone 1317-65-3	TWA: 15 mg/m^3 total dust TWA: 5 mg/m^3 respirable fraction (vacated) TWA: 15 mg/m^3 total dust (vacated) TWA: 5 mg/m^3 respirable fraction		TWA: 10 mg/m^3 total dust TWA: 5 mg/m^3 respirable dust
Precipitated Calcium Carbonate 471-34-1	-		TWA: 10 mg/m^3 total dust TWA: 5 mg/m^3 respirable dust
Dibutyltin Diacetyldiacetonate 22673-19-4	TWA: 0.1 mg/m^3 Sn (vacated) TWA: 0.1 mg/m^3 Sn (vacated) S*	STEL: 0.2 mg/m^3 Sn TWA: 0.1 mg/m^3 Sn S*	IDLH: 25 mg/m^3 Sn TWA: 0.1 mg/m^3 except Cyhexatin Sn

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form: Past/Gel Liquid

Color: black

Odor: mild

pH	Not Applicable
Melting point/freezing point	No information available
Boiling point/boiling range	No information available
Flash point	> 100 °C / > 212 °F
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limits in Air	
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific Gravity	1.45 - 1.60
Water solubility	insoluble
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available

SECTION 10 – STABILITY AND REACTIVITY

Hazardous decomposition products: Carbon monoxide, Carbon dioxide, hydrogen bromide, hydrocarbons and other possible toxic combustion products.

SECTION 11 – TOXICOLOGY INFORMATION

Oral LD50:	unknown
Skin Irritation:	non-irritant
Eye Irritation:	non-irritant
Skin Sensitization:	not a skin sensitizer
Further Information:	The product is a polymer and is not known to produce toxic effects.

SECTION 12: ECOLOGICAL INFORMATION

Aquatic / Terrestrial Toxicity: The product is a polymer and is not expected to produce toxic effects.

Additional Ecological

Information: This product has no known eco-toxicological effects.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: The polypropylene fabric portion is 100% recyclable. Recycling is preferred to disposal or incineration.

The polyester fabric disposal: incineration or landfill in accordance with Federal, State and Local regulations.

Disposal of the polypropylene matrix in accordance with all local, regional, national and international regulations.

SECTION 14: TRANSPORTATION INFORMATION

Not classified as dangerous for transport regulations.

SECTION 15: REGULATORY INFORMATION

SARA section 313: This product contains <15% antimony compounds as its chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 301

California Prop. 65: This product contains chemicals known to the State of California to cause cancer, birth defects or any other harm.

SECTION 16: OTHER INFORMATION

Contact Person: SDS Coordinator, 915 26TH Ave. NW, #C-5, Gig Harbor, WA 9335, Phone: 866-731-7663

Information provided in this Safety Data Sheet is given in good faith and is, to the best of our knowledge and belief, accurate and reliable. However, since information herein was obtained, in part, from independent suppliers not under the direction and supervision of VAPROSHIELD, the information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. VAPROSHIELD warrants only that it has made no effort to censor other than trade secret information or to conceal deleterious aspects of its products. The information relates only to the specific material designated and may not be valid for material used in combination with other materials or in any process, unless noted in the text.

VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

VAPROLIQUI-FLASH
Liquid Applied Waterproof Flashing Material
INSTALLATION INSTRUCTIONS

OVERVIEW
VaproLiqui-Flash is a liquid applied Waterproof Flashing material for window and door rough opening interfaces. It is designed for use with VaproShield Sheet Membranes in Air Barrier and Weather Resistive Barrier applications.

VaproLiqui-Flash is a unique material formulated to bond to VaproShield membranes and most common wall substrates without primers, forming a monolithic, waperproof surface while remaining permeable to water vapor. It allows underlying moisture to escape to the exterior, reducing the potential for mold and decay that can be associated with non-permeable flashings.

TECHNICAL DATA
- VaproLiqui-Flash comes in gun-able 20 oz. (567 g) sausages.
- Easily spreads with a putty knife to a thickness of 12 to 15 wet mils.
- Bonds and cures on damp or wet substrates.
- May be exposed for up to 6 months prior to covering with primary exterior cladding.
- Non-corrosive and adds self-sealing properties to fastener penetrations.
- Surface and ambient temperatures must be above 35° and below 100°F (2°-38°C) for application.
- Cured service temperatures: -50° to 350°F (-45° to 175°C).
- Skins-over in 30 minutes and dries in 4 hours at 70°F (21°C) and 50% relative humidity.
- Compatible with most silicone, urethane and acrylic sealants and coatings.
- Compatible with most building materials.
- Will not support mold growth.

Bonds and cures to wet and damp substrates.

STORAGE AND HANDLING
Store in a cool, dry place. Keep tightly closed when not dispensing. Do not open until preparation work has been completed. Do not alter or mix with other chemicals.

Ribbit Tip:
May be exposed for up to 6 months prior to covering with primary exterior cladding.

CLEANUP
Clean tools and equipment with mineral spirits or similar solvent immediately after use.

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VaproShield Canada | 101-1001 West Broadway Suite 545 | Vancouver, B.C. V6H 4E4, Canada | Toll Free: 1.866.871.8263 | www.VaproShield.ca

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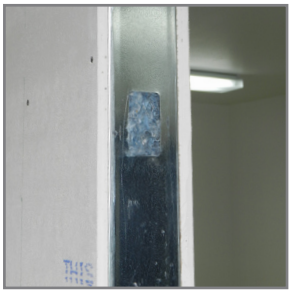
VAPROLIQUI-FLASH WITH VAPROFLASHING SA SELF-ADHERED INSTALLATION INSTRUCTIONS

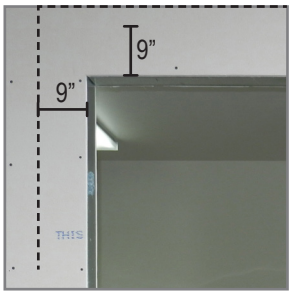
BEST PRACTICE INSTALLATION SEQUENCE WITH VAPROFLASHING SA SELF-ADHERED

STEPS 1-7 (OUT OF 14)



Note: Before beginning, make sure all sheathing materials are clean, free of dust, and trimmed flush with framing members at rough openings and that all materials, sausage gun, and putty knife are on site.

1. Cut and install VaproFlashing SA patches over pre-punched holes in metal studs, if present.



2. Measure and cut VaproFlashing SA sill, left & right jambs, and head flashing so that each piece extends 9” past edges of opening for each side (= R.O. + 18”).

3. Install VaproFlashing SA at bottom of sill by removing release paper from top 6” of flashing material and sticking it in place, leaving 6” of release paper on the lower half of the material for shingling over membrane.

4. Slit material at corners to allow it to fold into the opening.

5. Fold flap into opening and adhere to inside surface, being sure to keep the lower 6” of release paper intact.

6. Install left & right jamb flashing, adhering the entire flashing to the left and right of the jamb by removing the release paper starting at the top and slowly pulling down, smoothing with your other hand as you remove the release paper.

7. Repeat steps 4 and 5 for the left & right jamb flashing.

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VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

VAPROLIQUI-FLASH WITH VAPROFLASHING SA SELF-ADHERED
INSTALLATION INSTRUCTIONS

BEST PRACTICE INSTALLATION SEQUENCE WITH VAPROFLASHING SA SELF-ADHERED

STEPS 8-14 (OUT OF 14)

8. Install head flashing only after both left & right jamb pieces are fully adhered.

9. Repeat steps 4 and 5 for the head flashing.

10. Using the sausage gun, apply VaproLiqui-Flash in a zigzag pattern on the wall face surrounding the rough opening.

11. Immediately spread the applied material with a putty knife creating a 1" border around the rough opening.

12. Apply additional VaproLiqui-Flash in zigzag pattern on all inner surfaces of the rough opening.

13. Immediately spread until all surfaces are completely covered and substrate below is no longer visible (approximately 12 to 15 wet mils).

14. Allow VaproLiqui-Flash to set up until dry to the touch, then inspect for voids and apply additional VaproLiqui-Flash as needed to achieve complete coverage.

Completed application of VaproLiqui-Flash installed around all surfaces of rough opening.

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VAPROSHIELD®
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VaproShield LLC 20-Year Product Warranty

Job #:
Purchase Date:
Installation Date:

Owner Name:
Address:
City/State/Zip:

Project Name:
Address:
City/State/Zip:

Installer Name
Address:
City/State/Zip:

PRODUCT:

Date Issued:

LIMITED PRODUCT WARRANTY AND DISCLAIMER*:

A) PRODUCTS TO WHICH WARRANTY APPLIES:

1). WallShield®
2). WrapShield®
3). WrapShield SA® self-adhered
4). WrapShield RS™
5). RevealShield™
6). RevealShield SA™ self-adhered
7). SlopeShield®
8). SlopeShield SA® self-adhered
9). VaproMat™
10). VaproFlashing™
11). VaproFlashing SA™
12). RevealFlashing™
13). RevealFlashing SA™ self-adhered
14). VaproFlashing Factory Formed Corners™
15). VaproLiqui-Flash™
16). VaproBond™

B) LIMITED WARRANTY:

The WallShield, WrapShield, WrapShield SA, WrapShield RS, RevealShield, RevealShield SA, SlopeShield, SlopeShield SA and VaproMat products are suited for their intended use as an underlayment, weather resistive barrier, or as an air barrier. VaproShield will warrant its products for a period of twenty (20) years from the date of purchase.

VaproShield will replace any faulty product, provided the product used is installed per the published installation instructions and details. VaproShield installation instructions are provided with the products and/or are available at www.vaproshield.com, or by calling VaproShield toll free at 1-866-731-7663.

This warranty is transferable upon sale of the project, but in no event does it extend beyond 20 years from the date of original purchase of the product. Any and all claims must be made in writing within 20 business days after the owner discovers or obtains knowledge of any defect in the product(s). VaproShield must be given reasonable opportunity to inspect the allegedly defective product and all damage prior to alteration or removal of the product or any surrounding building components.

All claims must be made in accordance with the claims and inspection procedure noted herein.

This warranty shall not apply to, and VaproShield shall not be liable for, any damages arising in whole or in part from any one or more of the following:

1) WallShield, WrapShield, WrapShield SA, WrapShield RS, RevealShield, RevealShield SA, SlopeShield, SlopeShield SA and VaproMat that is not stored or installed in accordance with VaproShield's installation instructions in effect at the time of the installation.

2) Improper building practices or design not in accordance with the applicable building code or industry standards, or any deviation from approved construction plans or specifications.

3) Damage to WallShield, WrapShield, WrapShield SA, WrapShield RS, RevealShield, RevealShield SA, SlopeShield, SlopeShield SA and VaproMat resulting from causes other than normal weather conditions, including impact of falling objects, "Acts of God," earthquakes, hurricanes, flood, fire, hailstorms, high winds, cascading roof/floor water, ponding water, immersion in water, or improper installation of any building component.

4) Defects in the structure or a component of the structure (e.g., window, door, or wall system), premature deterioration of the building materials, or non-standard use of the VaproShield products.

5). Contamination of membrane with building site chemicals including, but not limited to, surfactants or substances that adversely affects its water resistance.

OPEN JOINT APPLICATIONS: VaproShield will warrant material for any open jointed cladding systems when VaproShield's Best Practices, details, and installation instructions (in effect at the time of the installation) are followed.

C) DISCLAIMER:

This warranty is limited to product replacement. This warranty is the sole warranty and is being provided in lieu of any other warranties, whether express or implied. Neither VaproShield LLC nor any of its affiliated companies, including product manufacturers, suppliers, representatives or distributors shall be liable for labor costs, consequential damages (such as personal injuries or damage to property) of any kind, loss of profits, loss of use, or any other damage or injury, whether known or unknown, that is caused or alleged to have been caused in whole or in part by any VaproShield product.

Any deviation from VaproShield's published Best Practices, details, and installation instructions (in effect at the time of the installation) shall void this warranty as to the entire project, unless such deviation was pursuant to a written directive or approval by VaproShield's Technical Team. Under no circumstances is a product sales representative, or any other individual or entity, authorized by VaproShield to direct or approve any VaproShield product installation, including but not limited to any deviation from VaproShield's published Best Practices, details, and installation instructions.

This Warranty is not valid unless and until VaproShield product has been paid for in full.

VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

1. Product Name

Vapro-SS Flashing™
VaproTermination Bar™

2. Manufacturer

VaproShield, LLC.
915 26th Avenue, NW #C5
Gig Harbor, WA 98335
Phone: (866) 731-7663 USA
Canada (866) 871-8263
Fax: (253) 858-3297
Web: www.vaproshield.com or www.vaproshield.ca

3. Product Description

BASIC USE AND APPLICATIONS

Vapro-SS Flashing is a multi-purpose self-adhered flashing that can perform in various applications, see below examples:

- Through-Wall Flashing for Masonry and Stone structural components
- Transition Membrane (air barriers, WRB, roofing membranes, plaza and below grade waterproofing)
- Curtain Wall Perimeter Flashing
- Window and Door Pan Fabrication
- Jamb Closure Flashing
- Roof to Parapet Transition Flashing

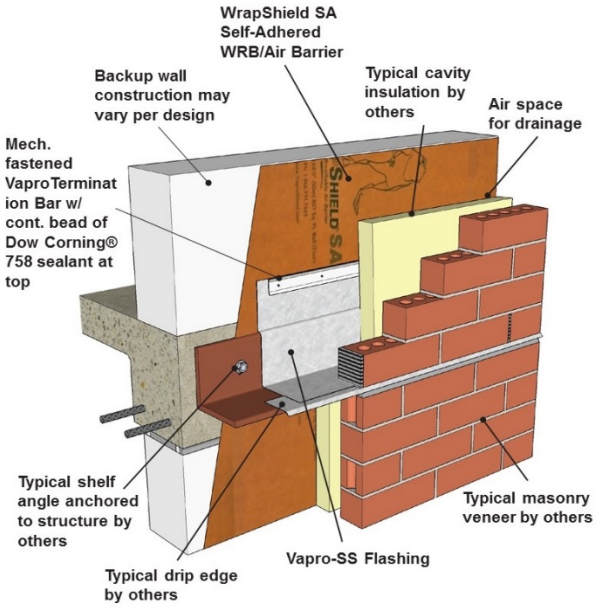
BENEFITS

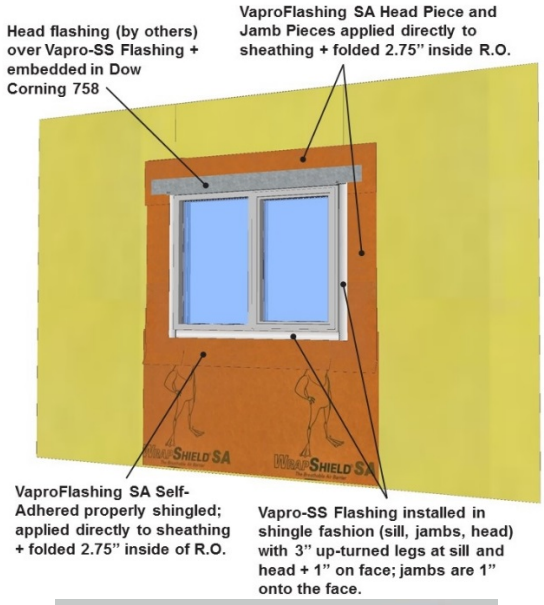
Vapro-SS Flashing is a flexible self-adhered flashing with a removable release liner that can be installed in temperatures ranging from 20 ˚F (-6 °C) to 170 ˚F (77 °C), stays stable and air tight from -70 ˚F (-57 °C) to 200 ˚F (93 °C). Vapro-SS Flashing easily adheres to the majority of air barriers, WRB's, sealants, insulations, below grade waterproofing and roofing membranes, which makes it an excellent transition flashing that is easy to install. The Vapro-SS Flashing provides a watertight bond, is mold resistant, fire resistant, and puncture resistant.

COMPATIBILITY

- All VaproShield Materials
- Spray Polyurethane Foam
- Exterior Rigid Insulation
- Exterior Gypsum
- Plywood
- Concrete
- Metals

SHELF ANGLE DETAIL with
Vapro-SS Flashing™ & VaproTermination™ Bar





Vapro-SS Flashing available in 4, 6, 12, or 18 inches x 50 ft. (10, 15, 30 or 45 cm x 15.24 m)

VaproTermination Bar is a rigid thermoplastic extrusion, non-corrosive, UV-resistant, rot-resistant, non-conductive, and 100% recycled. Material guide lip gives installers correct termination point. Available in 8'(2.4 M) L x 1"(25 mm) H x 1/8"(3 mm) D.

MATERIAL

Vapro-SS Flashing has been designed with a flexible 2 mil (0.05 mm) sheet of type 304 stainless steel, 8 mils (0.02 mm) of butyl adhesive and a siliconized release liner. Vapro-SS Flashing is a self-adhering metal flashing that offers best in class puncture and tear resistance.

SIZES: 4, 6, 12 or 18 in. x 50 ft. (10, 15, 30 or 45 cm x 15.24 m)

4. Technical Data

PROPERTY	TEST METHOD	TYPICAL VALUE
Tensile Strength	ASTM D882	100,000 psi (6,895,000 kpa)
Puncture	ASTM E154	2,500 psi (17,000 kpa)
Adhesion	PSTC-1	20 psi (138 kpa)
Application Temperature		20°F to 170°F (-6°C to 77°C)
Fire Resistance	ASTM E84	Pass, Class A
Mold Resistance	ASTM D3273	Pass

SUSTAINABLE DESIGN BENEFITS

Vapro-SS Flashing is manufactured from 60% recycled stainless steel, designed to last for the life of the building.

RELATED LEED CREDITS

Vapro-SS Flashing contributes to LEED by satisfying EA Credit 1 (optimize energy performance) and Environmental Quality ("EQ") Credit 4.1 (low emitting materials).

5. Installation Guidelines

- **Masonry and Stone applications:**
  Install **Vapro-SS Flashing** using the appropriate width over structural ledgers, as per Masonry Institute requirements. Incorporate Drip edge (by others). Install in Shingle Fashion with WRB/AB wall material or secure with VaproTermination Bar™, and seal top edge with Dow Corning® 758 Sealant.
- **Curtainwall Perimeter and Window Rough Opening Applications:**
  Install **Vapro-SS Flashing** in conjunction with VaproFlashing™ materials to wrap rough openings prior to installation of Curtainwall, Punched Windows, Doors, Louver, Vents, Etc.
- **Transition Membrane Applications:**
  Install **Vapro-SS Flashing** in shingle fashion with a 3" (76 mm) minimum overlap with adjacent material. For Roofing, parapet and plaza deck conditions, verify compatibility of adjacent materials with VaproShield Technical Department.
- **Other Applications:**
  Contact VaproShield Technical Department for information: (866) 731-7663, Monday-Friday, 8am – 5pm Pacific Time.

STORAGE AND HANDLING

Store material in original packaging. Protect rolls from direct sunlight and inclement weather. Storage conditions: 0-100F (-17.8 – 37.8C)

LIMITATIONS

- **Vapro-SS Flashing** should be covered within a few days of installation to protect it from damage from different trades, the environment and falling debris.
- If flashing is left unprotected and it is punctured or torn, contact VaproShield for replacement recommendations.
- Avoid placing the adhesive with other materials that have high plasticizer con-tents.

6. Availability

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

VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

SAFETY DATA SHEET

Issue Date 2016.07.28

SECTION 1 – PRODUCT IDENTIFICATION

Product Name:	VaproThru-Wall Flashing™	
Product Codes:	49854800 6 inch, 49856000 12 inch, 49857700 18 inch	
Supplier of the SDS:	VAPROSHIELD, LLC 915 26TH Ave. NW, #C-5 Gig Harbor, WA 9335 866-731-7663	
Product Information:	8:00 AM – 5:00 PM PST Monday-Friday	1-866-731-7663
Emergency Contact:	24/7 INFOTRAC:	1-800-535-5053
Chemical Name:	N/A	
Chemical Family:	Stainless Steel	
Formula:	Mixture - N/A	

SECTION 2 - HAZARDS IDENTIFICATION

NONE

SECTION 3 - COMPOSITION/INFORMATION

Component	CAS-No.	Weight - %
Stainless Steel	65997-19-5	<80%
Butyl copolymer		>10%
Paper release liner		>10%

SECTION 4 - FIRST AID MEASURES

Emergency Overview: This produce has no known adverse effect on human health. This product does not present a respiration hazard unless the product is ground to a powder of respirable size and inhaled as dust.

SECTION 5 - FIRE-FIGHTING MEASURES

Flash point:	not applicable
Auto ignition temperature:	not applicable
Fire and Explosion Hazard:	None
Fire and Explosion Hazard:	None
Firefighting Instructions:	Wear self-contained breathing apparatus and protective suit. Use extinguishing measures that are; Dry chemical, Carbon dioxide, Water spray, Sand, Alcohol resistant foam.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

NOTE: Use appropriate personal prospective equipment as needed during clean-up.

Personal precautions: Gloves are recommended due to sharp edges.

SECTION 7 - HANDLING AND STORAGE

Handling: Use personal protective equipment as required and normal jobsite precautions.

Storage: Keep properly labeled in original packaging and store in cool dry area.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protection Equipment

Handling Protection: Use personal protective equipment as required. Gloves are recommended due to sharp edges.

Exposure Guidelines

Exposure Limit Values

Chemical Name	PEL (OSHA)	TLV (ACGIH)
	N/A	N/A

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form: sheets

Color: Silver (metallic)/White release paper

Odor: N/A

Melting point/range: N/A

Specific gravity (H_2O = 1): 8.8 – 8.9

Water solubility: Insoluble

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: N/A

Chemical stability: Stable

Possibility of hazardous reactions: None under normal conditions

Hazardous decomposition products: Carbon monoxide, carbon dioxide, unknown hydrocarbons, and possible metallic fumes (when heated to over 2,550 °F)

SECTION 11 – TOXICOLOGY INFORMATION

Oral LD50: N/A

Skin Irritation: Non-irritant

Eye Irritation: Non-irritant

Skin Sensitization: No information available

SECTION 12: ECOLOGICAL INFORMATION

Aquatic / Terrestrial Toxicity: No information available.

Additional Ecological Information: This product has no known eco-toxicological effects.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: This product is 100% recyclable. Recycling is preferred to disposal.

SECTION 14: TRANSPORATION INFORMATION

Not classified as dangerous for transport regulations.

SECTION 15: REGULATORY INFORMATION

SARA section 313: This product does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 301

California Prop. 65: Chemicals known to the State of California to cause cancer, birth defects or any other harm: None Known.

SECTION 16: OTHER INFORMATION

Contact Person: SDS Coordinator, 915 26TH Ave. NW, #C-5, Gig Harbor, WA 9335, Phone: 866-731-7663

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VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

VAPRO-SS FLASHING™

Self-Adhered Stainless Steel Flashing

INSTALLATION INSTRUCTIONS

OVERVIEW

Vapro-SS Flashing has been designed with a flexible 2 mil (0.05 mm) sheet of type 304 stainless steel, 8 mils (0.20 mm) of butyl adhesive and a siliconized release liner. Vapro-SS Flashing is a self-adhering metal flashing that offers best in class puncture and tear resistance.

It is a multi-purpose self-adhered flashing that can perform in various applications, see below examples:

- Through-Wall Flashing for Masonry and Stone structural components
- Transition Membrane (air barriers, WRB, roofing membranes, plaza and below grade waterproofing)
- Curtain Wall Perimeter Flashing
- Window and Door Pan Fabrication
- Jamb Closure Flashing
- Roof to Parapet Transition Flashing

TECHNICAL DATA

- Flexible self-adhered flashing with a removable release liner that can be installed in temperatures ranging from 20 ˚F (-6 °C) to 170 ˚F (77 °C)
- Stays stable and air tight from -70 ˚F (-57 °C) to 200 ˚F (93 °C)
- Easily adheres to the majority of air barriers, WRB's, sealants, insulations, below grade waterproofing and roofing membranes, which makes it an excellent transition flashing that is easy to install
- Provides a watertight bond, is mold resistant, fire resistant, and puncture resistant
- Available in 4, 6, 12, or 18 inches x 50 ft. (10, 15, 30 or 45 cm x 15.24 m).

COMPATIBILITY

- All VaproShield Materials
- Spray Polyurethane Foam
- Exterior Rigid Insulation
- Exterior Gypsum
- Plywood
- Concrete
- Metals

STORAGE AND HANDLING

Store material in original packaging. Protect rolls from direct sunlight and inclement weather. Storage conditions: 0 ˚F (-18 ˚C) to 100 ˚F (38 ˚C)

Cover within a few days of installation to protect it from damage from different trades, the environment and falling debris.

If flashing is left unprotected and it is punctured or torn, contact VaproShield for replacement recommendations, 1-866-731-7663, ext. 5.

Avoid placing the adhesive with other materials that have high plasticizer contents.

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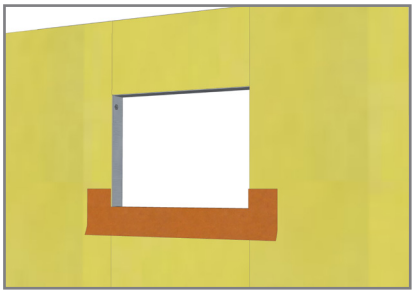
VAPRO SHIELD®
Breathable Membrane Systems for Roofs & Walls

VAPRO-SS FLASHING™

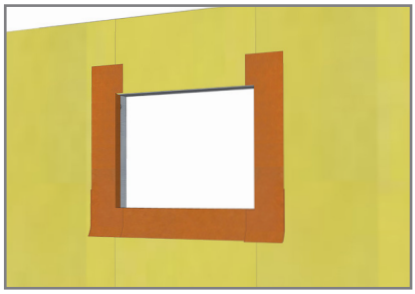
Self-Adhered Stainless Steel Flashing

INSTALLATION INSTRUCTIONS

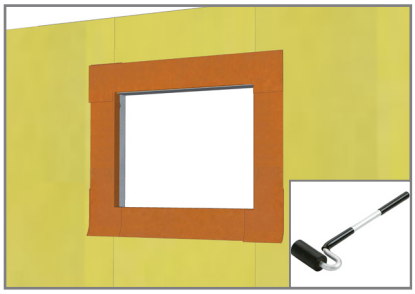
BEST PRACTICE SEQUENCE WITH VAPRO-SS FLASHING STEPS 1-9



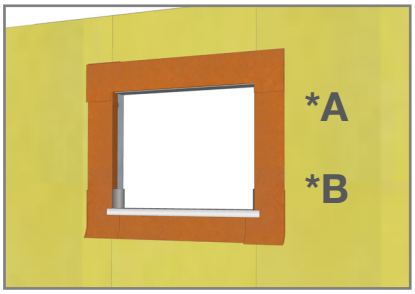
1. Install VaproFlashing SA Self-Adhered into sill with 2.75” folded into Rough Opening (R.O.) 9” left on face, with bottom 6” of release film to remain attached.



2. Install jamb pieces with 2.75” folded into R.O. 9” to be left on face.



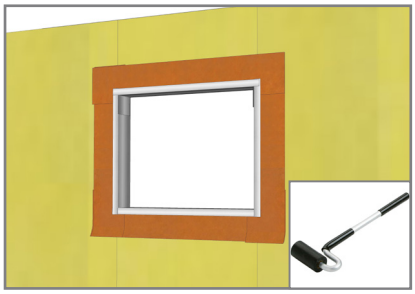
3. Install head piece with 2.75” folded into R.O. 9” to be left on face. Roll all VaproFlashing SA (orange) sections with weighted roller to ensure full contact.



4. Install Vapro-SS Flashing at sill in shingle fashion with 3” up-turned legs at sill and head + 1” on face; jambs are 1” onto the face.

See Cut Patterns Detail P.3

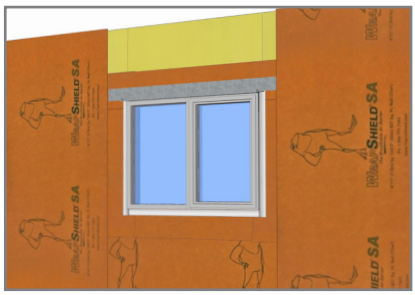
5. Install Vapro-SS Flashing at jambs in shingle fashion with 3” up-turned legs at sill and head + 1” on face; jambs are 1” onto the face.



6. Install Vapro-SS Flashing on head in shingle fashion with 3” up-turned legs at sill and head + 1” on face; jambs are 1” onto the face. Roll all Vapro-SS Flashing with weighted roller to ensure full contact.

7. Install field membrane underneath 6” flap of sill flashing to create shingle effect, remove release film, adhere to membrane, roll to ensure adhesion at seams (overlaps).

7A. Install head flashing (by others) over Vapro-SS Flashing + embedded in Dow Corning® 758



8. Install field membrane vertically to sheathing, maintaining 3” minimum overlap with R.O. flashing, roll to ensure adhesion at seams (overlaps).

9. Install WrapShield SA field membrane over metal head flashing, maintaining 3” minimum overlap to adjacent field membrane. roll to ensure adhesion at seams (overlaps).

***A**. To maintain continuity of air barrier system, while allowing for proper drainage at sill, a continuous interior window perimeter sealant joint with backer rod is required.

***B.** To determine width dimension of Vapro-SS Flashing required; Measure the depth that the window projects into the rough opening from the exterior face of the wall and add ½”.

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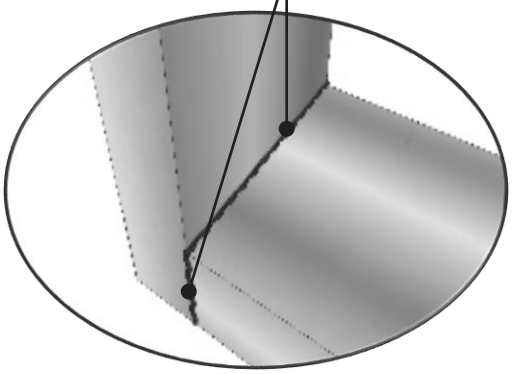
VAPRO-SS FLASHING™

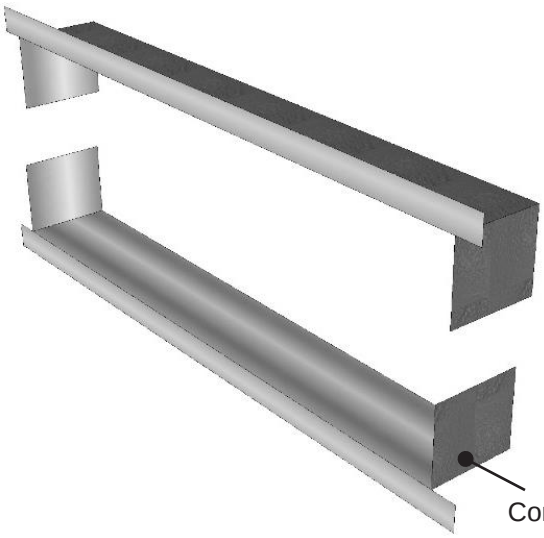
Self-Adhered Stainless Steel Flashing

INSTALLATION INSTRUCTIONS

Cut Patterns

Dow Corning® 758 or VaproLiqui-Flash ½" tooled fillet bead at each corner where inside of R.O. meets face of sheathing.

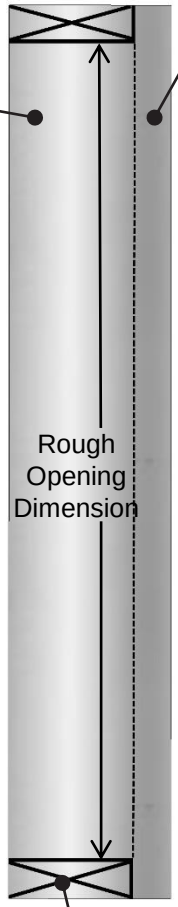




Completed flashing with folds

Section is adhered to inside of RO, ½" past window

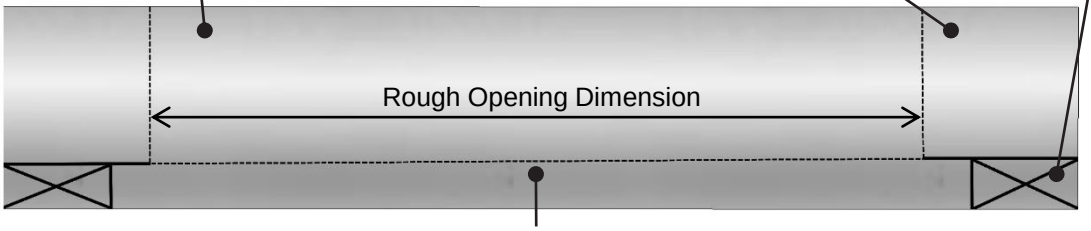
Fold toward back of flashing, creating 1" flap to adhere to RO face



1" x 2" rectangle to be cut out, leaving 1" tab extending beyond 3" flap

Section is adhered to inside of RO, ½" past window

Fold toward face of Flashing 3" from edge



Fold toward back of flashing, creating 1" flap to adhere to RO face

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VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

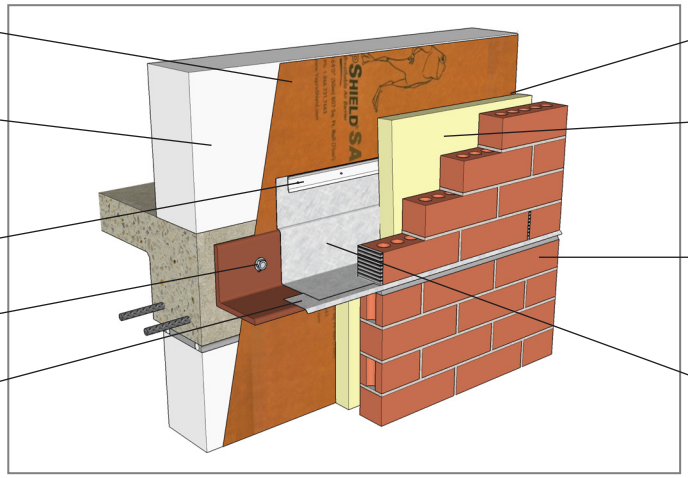
VAPRO-SS FLASHING™

Self-Adhered Stainless Steel Flashing

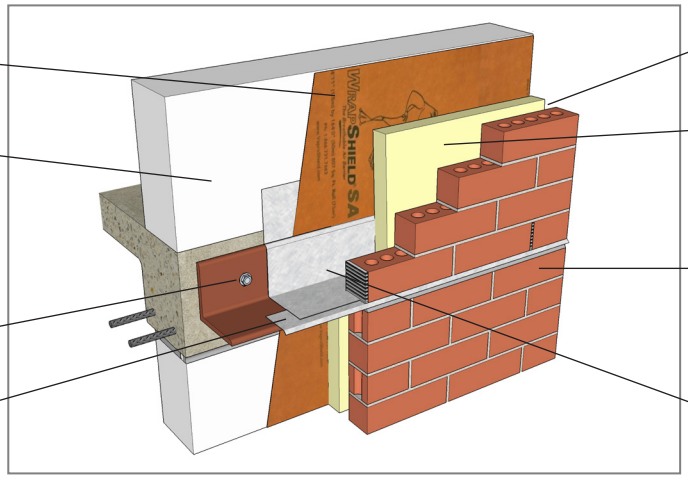
INSTALLATION INSTRUCTIONS

Thru-wall Applications

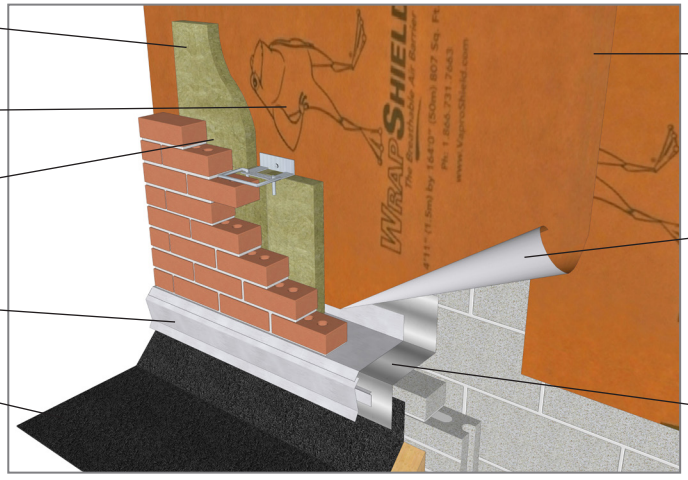
Thru-wall Shelf Angle Detail with VaproTermination Bar



Thru-wall Shelf Angle Detail with Integrated Field Membrane



Low Roof to Wall Detail



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VaproShield LLC 20-Year Product Warranty

Job #:
Purchase Date:
Installation Date:

Owner Name:
Address:
City/State/Zip:

Project Name:
Address:
City/State/Zip:

Installer Name
Address:
City/State/Zip:

PRODUCT:

Date Issued:

LIMITED PRODUCT WARRANTY AND DISCLAIMER*:

A) PRODUCTS TO WHICH WARRANTY APPLIES:

1). WallShield®
2). WrapShield®
3). WrapShield SA® self-adhered
4). WrapShield RS™
5). RevealShield™
6). RevealShield SA™ self-adhered
7). SlopeShield®
8). SlopeShield SA® self-adhered
9). VaproMat™
10). VaproFlashing™
11). VaproFlashing SA™
12). RevealFlashing™
13). RevealFlashing SA™ self-adhered
14). VaproFlashing Factory Formed Corners™
15). VaproLiqui-Flash™

B) LIMITED WARRANTY:

The WallShield, WrapShield, WrapShield SA, WrapShield RS, RevealShield, RevealShield SA, SlopeShield, SlopeShield SA and VaproMat products are suited for their intended use as an underlayment, weather resistive barrier, or as an air barrier. VaproShield will warrant its products for a period of twenty (20) years from the date of purchase.

VaproShield will replace any faulty product, provided the product used is installed per the published installation instructions and details. VaproShield installation instructions are provided with the products and/or are available at www.vaproshield.com, or by calling VaproShield toll free at 1-866-731-7663.

This warranty is transferable upon sale of the project, but in no event does it extend beyond 20 years from the date of original purchase of the product. Any and all claims must be made in writing within 20 business days after the owner discovers or obtains knowledge of any defect in the product(s). VaproShield must be given reasonable opportunity to inspect the allegedly defective product and all damage prior to alteration or removal of the product or any surrounding building components.

All claims must be made in accordance with the claims and inspection procedure noted herein.

This warranty shall not apply to, and VaproShield shall not be liable for, any damages arising in whole or in part from any one or more of the following:

1) WallShield, WrapShield, WrapShield SA, WrapShield RS, RevealShield, RevealShield SA, SlopeShield, SlopeShield SA and VaproMat that is not stored or installed in accordance with VaproShield's installation instructions in effect at the time of the installation.

2) Improper building practices or design not in accordance with the applicable building code or industry standards, or any deviation from approved construction plans or specifications.

3) Damage to WallShield, WrapShield, WrapShield SA, WrapShield RS, RevealShield, RevealShield SA, SlopeShield, SlopeShield SA and VaproMat resulting from causes other than normal weather conditions, including impact of falling objects, "Acts of God," earthquakes, hurricanes, flood, fire, hailstorms, high winds, cascading roof/floor water, ponding water, immersion in water, or improper installation of any building component.

4) Defects in the structure or a component of the structure (e.g., window, door, or wall system), premature deterioration of the building materials, or non-standard use of the VaproShield products.

5). Contamination of membrane with building site chemicals including, but not limited to, surfactants or substances that adversely affects its water resistance.

OPEN JOINT APPLICATIONS: VaproShield will warrant material for any open jointed cladding systems when VaproShield's Best Practices, details, and installation instructions (in effect at the time of the installation) are followed.

C) DISCLAIMER:

This warranty is limited to product replacement. This warranty is the sole warranty and is being provided in lieu of any other warranties, whether express or implied. Neither VaproShield LLC nor any of its affiliated companies, including product manufacturers, suppliers, representatives or distributors shall be liable for labor costs, consequential damages (such as personal injuries or damage to property) of any kind, loss of profits, loss of use, or any other damage or injury, whether known or unknown, that is caused or alleged to have been caused in whole or in part by any VaproShield product.

This Warranty is not valid unless and until VaproShield product has been paid for in full.

VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

1. Product Name
VaproShim SA™ Self-Adhered

2. Manufacturer
VaproShield, LLC
915 26th Avenue, NW #C5
Gig Harbor, WA 98335
Phone: (866) 731-7663 USA / (866) 871-8263 Canada
Fax: (253) 858-3297 USA / (866) 340-2587 Canada
Email: info@vaproshield.com or info@vaproshield.ca
Web: www.vaproshield.com or www.vaproshield.ca

3. Product Description
OVERVIEW
VaproShim SA™ Self-Adhered is a neoprene/EPDM accessory used under horizontal cladding attachment components creating the desired vertical rain screen drainage plane for cladding, while sealing fastener penetrations. This simple design adds minimal cost while adding tremendous drying capacity to the building envelope.
BENEFITS
- Self-Adhered backing allows easy placement
- Creates unimpeded drainage plane
- Increases drying capacity
- No VOC's
- All weather application
- Seals fastener penetrations
- Adds minimal thickness to wall assembly
- Multiple thickness to facilitate attachment requirements
- No compatibility restrictions

4. Technical Data

Property	Value
Material	Neoprene / EPDM
Temperature Range	-20 to + 200°F (-29 to +93°C)
Durometer Hardness	80±5
Tensile Strength	1000 PSI
Elongation	100%
Color Availability	Black
Size	1" width x 4" length x ¼" or ⅛ thick (102 mm x 25.4 mm x 6.35 mm or 3.18 mm)

5. Installation
Remove the release film and place the adhesive side of the shim on the WRB/air barrier membrane or the cladding attachments at fastening locations determined by local building codes.

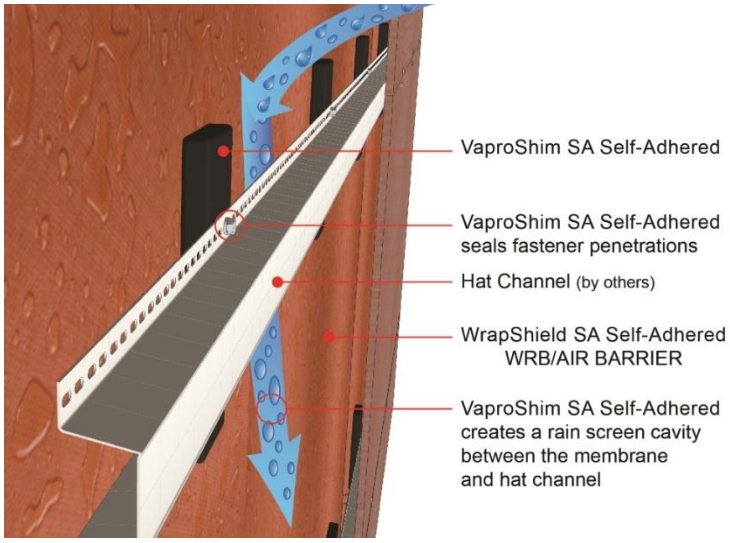
IMPORTANT: All cladding fasteners and attachment methods, including fasteners through the VaproShim SA™ Self-Adhered need to be reviewed by structural engineer of record.

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

Available in 2 sizes; VaproShim SA Self-Adhered 1/8" (left), 1/4" (right)

VaproShim SA adhered to hat channel, when installed VaproShim SA will seal fastener penetrations and create a vertical rain screen drainage plane, adding significant drying capacity to the building envelope.

Universally compatible, simple design, VaproShim SA, creates a vertical rain screen drainage plane increasing the building envelope drying capacity.



VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

SAFETY DATA SHEET

Issue Date 2016.07.28

SECTION 1 – PRODUCT IDENTIFICATION

Product Name:	VAPROSHIM SA™ Self-Adhered	
Product Codes:	86300400 1 x 4 x ¼ inch, 863003001 x 4 x ⅛ inch	
Manufacture:	VAPROSHIELD, LLC 915 26TH Ave. NW, #C-5 Gig Harbor, WA 9335 866-731-7663	
Product Information:	8:00 AM – 5:00 PM PST Monday-Friday	1-866-731-7663
Emergency Contact:	24/7 INFOTRAC:	1-800-535-5053
Chemical Name:	Neoprene polychloroprene	
Chemical Family:		
Formula:	Mixture - N/A	

SECTION 2 - HAZARDS IDENTIFICATION

NONE

SECTION 3 - COMPOSITION/INFORMATION

Component	CAS-No.	Weight - %
Poly(2-chloro-1,3-butadiene)	9010-98-4	>95%
Adhesive Polymer	Trade Secret	3-4%
Polyester Film	None	<1%
Paper Backing	None	<1%

SECTION 4 - FIRST AID MEASURES

Emergency Overview: This product has no known adverse effect on human health. This product does not present a respiration hazard unless the product is ground to a powder of respirable size and inhaled as dust.

SECTION 5 - FIRE-FIGHTING MEASURES

Flash point:	not applicable
Auto ignition temperature:	No Data
Fire and Explosion Hazard:	Burning is accompanied by melting and dripping which may cause the fire to spread.
Fire and Explosion Hazard:	Hazardous combustion products of Carbon monoxide and Carbon dioxide
Firefighting Instructions:	Wear self-contained breathing apparatus and protective suit. Clouds of fine particles may produce a weak explosion, once the material is extinguished, provide cooling to prevent re-ignition.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES section before proceeding with clean-up. Use appropriate personal protective equipment as needed during clean-up.

Spill Cleanup: Not Applicable

SECTION 7 - HANDLING AND STORAGE

Handling: Minimize the generation and accumulation of dust.

Storage: No special conditions

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protection Equipment

Respiratory Protection: Respiratory protection should not be required under normal use and handling.

Exposure Guidelines

Exposure Limit Values: Contains no substances with occupational exposure limit values.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form: sheets

Color: black with white release paper

Odor: none

Melting point/range: unknown

SECTION 10 – STABILITY AND REACTIVITY

Hazardous decomposition products: Hydrogen chloride, Carbon monoxide, Organic acids, Aldehydes, Alcohols

SECTION 11 – TOXICOLOGY INFORMATION

Oral LD50: 20,000 mg/kg (rat)

Skin Irritation: non-irritant

Eye Irritation: non-irritant

Skin Sensitization: not a skin sensitizer

Further Information: The product is a polymer and is not known to produce toxic effects.

SECTION 12: ECOLOGICAL INFORMATION

Aquatic / Terrestrial Toxicity: The product is a polymer and is not expected to produce toxic effects.

Additional Ecological Information: This product has no known eco-toxicological effects.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: The polypropylene portion is 100% recyclable. Recycling is preferred to disposal or incineration.
Can be landfilled or incinerated in compliance with Federal, State and Local regulations. Incinerate only in incinerators capable of scrubbing out acidic combustion products.

SECTION 14: TRANSPORATION INFORMATION

Not classified as dangerous for transport regulations.

SECTION 15: REGULATORY INFORMATION

SARA section 313: This product does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 301

California Prop. 65: Chemicals known to the State of California to cause cancer, birth defects or any other harm: None Known.

SECTION 16: OTHER INFORMATION

Contact Person: SDS Coordinator, 915 26TH Ave. NW, #C-5, Gig Harbor, WA 9335, Phone: 866-731-7663

Information provided in this Safety Data Sheet is given in good faith and is, to the best of our knowledge and belief, accurate and reliable. However, since information herein was obtained, in part, from independent suppliers not under the direction and supervision of VAPROSHIELD, the information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. VAPROSHIELD warrants only that it has made no effort to censor other than trade secret information or to conceal deleterious aspects of its products. The information relates only to the specific material designated and may not be valid for material used in combination with other materials or in any process, unless noted in the text.

WrapShield SA® Self-Adhered

COMPLETE WRB/AIR BARRIER SYSTEM

VaproShield®

Breathable Membrane Systems for Roofs & Walls

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