WallShield® IT Integrated Tape

COMPLETE WRB SYSTEM

SUBMITTAL PACKAGE

SIMPLE INSTALLATION STEPS

Install Rough Opening Flashing Materials

Apply Breathable Field Membrane with Integrated Horizontal Tape

Seal Vertical Joints

COMPLETE WRB SYSTEM

VaproShield®

Breathable Membrane Systems for Roofs & Walls

SECTION 07 27 27.01
WATER-RESISTIVE AIR BARRIER MEMBRANE

SPEC WRITERS NOTE: This specification includes materials and installation procedures for **WallShield® IT** Integrated Tape Water-Resistive Vapor Permeable Air Barrier Water Resistive Barrier Sheet Membrane used behind rain screen wall cladding assemblies such as pressure equalized cladding systems incorporating composite and metal materials, masonry and stone veneers, stucco and mechanically attached EIFS. With a vapor permeance rating of greater than 140 perms (5969 g/24hr.m^2) **WallShield® IT** Water-Resistive Vapor Permeable Sheet membrane prevents moisture intrusion but 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 mechanically attached water resistive 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, including:
   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

C. Install primary water-resistive vapor permeable moisture barrier, flashing, and 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]
G.	Flashing	Section [07 XX XX]
H.	Sealants	Section [08 XX XX]
I.	Door Frames	Section [08 XX XX]
J.	Window Frames	Section [08 XX XX]

1.04 REFERENCE STANDARDS

A. ASTM International (ASTM):
   1. ASTM D 5034 - Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test).
   2. ASTM E 96/E 96M - Test Methods for Water Vapor Transmission of Materials.
   3. ASTM E398 Standard Test Method for Water Vapor Transmission Rate of Sheet Materials Using Dynamic Relative Humidity Measurement.
   4. ASTM E 84 - Test Method for Surface Burning Characteristics of Building Materials.

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

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, cladding attachment fasteners and masonry ties
6. Sealants

1.06 QUALITY ASSURANCE

A. Single Source: Mechanically attached 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 Class "A" Rating:
   Flame spread index: 0 or less
   Smoke developed index: 65 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 water resistive 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 surfaces or substrate, window rough opening preparation or flashing method, window frame and attachment method, clips, strapping or masonry ties, or cladding attachment components, attachment of insulation and detailing of water-resistive vapor permeable water resistive barrier membrane application and lap seams.

1. Perform water spray test of mockup to demonstrate performance, as per ASTM Standards.

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 tightness are present.

1.09 DELIVERY, STORAGE AND HANDLING

A. Refer to current Product Installation Instructions and SDS 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. Waste 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 mechanically attached water-resistive vapor permeable water resistive barrier system throughout the scope of this section.
   1. Vapor permeable water resistive barrier membrane to include self-adhered or mechanically attached, transition membranes and sealants at penetrations.
   2. Drainage plane to include drainage cavity, water resistive barrier and flexible flashings to the exterior.

1.11 ALTERNATES

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

A. Submit requests for alternates a minimum of ten (10) working days prior to bid date.
B. 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, and vapor permeance rates of the water-resistive vapor permeable membrane.
   2. Manufacturer's complete set of details for mechanically attached water-resistive vapor permeable membrane system showing a continuous plane of water 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.
C. 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 mechanically attached water-resistive vapor permeable air barrier sheets installed in accordance with manufacturer's instructions that fail due to material defects within 20 years of the date of Purchase.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Primary mechanically attached water-resistive vapor permeable barrier membrane components and accessories must be obtained from a single-source manufacture to ensure total system compatibility and integrity.
   1. Mechanically attached water-resistive vapor permeable air barrier membrane by VaproShield LLC., Gig Harbor, WA, Phone: (866) 731-7663, Website: www.vaproshield.com.

SPEC WRITERS NOTE: Acceptable substrates for WallShield® IT Integrated Tape water-resistive vapor permeable air barrier sheet membrane include DensGlass®, exterior grade gypsum board, plywood, precast concrete, cast-in place concrete, concrete block, brick, steel, aluminum, OSB and galvanized metal. Best practice guidelines for the mechanically attached application of WrapShield® IT on clean sheathing surfaces. Applications of WallShield® IT on sheathing surfaces clean of oil, dust, or other contaminates including primers.

B. WATER-RESISTIVE VAPOR PERMEABLE MECHANICALLY ATTACHED WATER RESISTIVE BARRIER MATERIALS (Basis of Design)
   1. Primary mechanically attached sheet membrane shall be WallShield® IT Integrated Tape water-resistive vapor permeable sheet membrane by VaproShield, a zero VOC vapor permeable sheet membrane consisting of multiple layers of spun-bonded polypropylene tested in accordance with ICC-ES AC 38 criteria to meet IBC and IRC requirements for weather resistive barriers having the following properties:
      a. Color: Green with allowable UV exposure for 180 days, prior to coverage.
      b. Breaking strength and Elongation to ASTM D 5034: 102.9 lbf (457.7 N), machine direction; 108.4 lbf (482.2 N), cross-machine direction.
      c. Water Vapor Permeance tested to ASTM E 96 Method A: minimum of 87 perms (602 g/24hr.m^2)

d. Water Vapor Permeance tested to ASTM E 96 Method B: minimum of 90 perms (617 g/24hr.m^2)
e. Water Vapor Permeance tested to ASTM E398: minimum of 142.56 perms (986.62 g/24hr.m^2)
f. Water Resistance tested to AATCC 127, 550 mm hydrostatic head for 5 hours: No leakage
g. Application Temperature: No minimum temperature.
h. Surface Burning Characteristics tested to ASTM E 84: Class A, Flame-spread index of 0, Smoke-developed index of less than 65.
i. Physical Dimensions: 0.0232 inches (0.589 mm) thick and 59 inches (1.5 m) wide and 5.088 oz/yd^2 (172.5 g/m^2).

C. WATER-RESISTIVE VAPOR PERMEABLE TRANSITION AND FLASHING MEMBRANE
1. Self-adhered air barrier transition and flashing membrane for all window jambs, headers, door openings, inside and outside corners, and other transitions shall be pre-cut VaproFlashing SA™ by VaproShield, a zero VOC fully self-adhered water-resistive vapor permeable sheet membrane having the following properties:
a. VaproFlashing SA™ Orange: 11 $^3/_4$ inches (30 cm) or 19 $^2/_3$ inches (50 cm) wide x 164 feet (50 m) long
b. Air Leakage: ≤0.00002 cfm/ft^2 @ 1.57 psf (≤0.0001 L/s m^2 @ 75 Pa) when tested in accordance with ASTM E 2178 and ≤0.01 cfm/ft^2 @ 1.57 psf (≤0.01 L/s m^2 @ 75 Pa)) when tested in accordance with ASTM E 2357
Water Vapor Permeance tested to ASTM E 96 Method B: minimum 50 perms (2861 ng/Pa.s.m^2)
Water Vapor Permeance tested to ASTM E398: minimum of 50 perms (2861 ng/Pa.s.m^2)
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 pre-cut VaproFlashing SA™ shall include 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: Best construction practice for wood frame construction is to protect the head, jambs and sill of rough openings with the self-adhering water resistive vapor permeable air barrier membrane and VarpoLiqui-Flash system to reduce the risk of wood deterioration. Alternatively, for steel stud frame construction with DensGlass® or gypsum sheathing surfaces a Vapro-SS Flashing may be used to protect the head, jamb and sill of rough openings.

E. ALTERNATE: VAPRO-SS FLASHING™ WATER IMPERMEABLE FLASHING FOR ROUGH OPENINGS
1. Window and door shall include Vapro-SS Flashing™ by VaproShield, a flexible 2 mil (0.05 mm) stainless steel sheet with an 8 mil (0.20 mm) butyl adhesive backing.
a. Vapro-SS Flashing™: 4, 6, 9, 12, 18 or 24 inches (10.2, 15.2, 22.9, 30.5, 45.7, 61 cm) x 50 feet (15.24 m) long.
b. Tensile Strength/Puncture: 100,000 psi when tested in accordance with ASTM D882 and 2,500 psi when tested in accordance with ASTM E154.

F. THROUGH WALL FLASHING
1. Thru-wall flashing shall include Vapro-SS Flashing™ by VaproShield, a flexible 2 mil (0.05 mm) stainless steel sheet with an 8 mil (0.20 mm) butyl adhesive backing and may include a VaproTermination Bar™ when the top section of the Vapro-SS Flashing™ is exposed.
a. Vapro-SS Flashing™: 4, 6, 9, 12, 18 or 24 inches (10.2, 15.2, 22.9, 30.5, 45.7, 61 cm) x 50 feet (15.24 m) long.
b. Tensile Strength/Puncture: 100,000 psi when tested in accordance with ASTM D882 and 2,500 psi when tested in accordance with ASTM E154
c. VaproTermination Bar™: 1 inch (25 mm) wide x 8 feet (2.4 m) long, UV-resistance rigid thermoplastic extrusion, if required by sequence of installation.

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. VaproBattens™ with VaproVent™ Strips, the VaproShim™ and VaproMat™ ensure continuous air flow throughout the cavity, for the life of the building. Include 2.1.G. for Water-Resistive Weather Barrier Batten and Ventilation Accessories.

G. WATER-RESISTIVE WEATHER BARRIER BATTEN, SHIM OR MAT 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 moisture drainage channels configured to create a ventilated airspace between wall cladding and weather-resistive barrier, bull nose edges prevent membrane tearing. Fasteners are installed directly through VaproBatten into the structural elements regardless of weather conditions.
b. VaproVent™ Strips are available in two types: VaproVent L Strip and VaproVent Hook Strip.
i. VaproVent™ Gray vinyl L Strips are attached to the top and bottom of VaproBattens. They prevent insect invasion and provide maximum ventilation.
ii. VaproVent™ Gray vinyl Hook Strips are used with VaproBattens as a starter strip for vinyl and beveled siding applications, in place of the VaproVent L Strip at the bottom of the assembly.
c. VaproShim SA™ self-adhered, Neoprene/EPDM accessory used under horizontal or vertical cladding attachment components to create a vertical rain screen drainage plane for cladding, while sealing fastener penetrations.
d. VaproMat™ Lightweight, hydrophobic filter fabric with a 3 mm or 7 mm polypropylene drainage matrix attached, designed to keep the drainage cavity clean and unobstructed during the lath and plaster or adhesive mortar installation, promoting rapid draining and drying of the rain screen cavity.

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 VaproBond™ 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, free of oil, grease, dirt, excess mortar or other contaminants detrimental to the attachment of the mechanically attached water resistive air barrier membrane and flashings. Fill voids and gaps in substrate greater than $^{7}/_{8}$ inch (22 mm) in width to provide an even surface. Strike masonry joints full-flush.
C. No minimum application temperature of mechanically attached water-resistive vapor permeable barrier sheet membrane and mechanically attached flashings.
D. Ensure all preparatory work is complete prior to applying primary mechanically attached water-resistive vapor permeable barrier sheet membrane.
E. Mechanical fasteners used to secure sheathing surfaces or penetrate sheathing surfaces shall be set flush with sheathing, fastened into solid backing and covered with the upper overlapping membrane. If exposed fasteners are present on the surface of the membrane, cover and seal with Vapro-LiquiFlash or VaproBond™.
F. If exposed fasteners are required, use VaproCaps to insure water/air tight seal.

3.02 COORDINATION OF MECHANICALLY ATTACHED VAPOR PERMEABLE WATER RESISTIVE AIR BARRIER MEMBRANE INSTALLATION
A. Download Installation Instructions at http://vaproshield.com/public-documents/installation-instructions.
B. Installation Summary:

a. Mechanically attached water-resistive vapor permeable water resistive barrier sheet membrane should be installed horizontally over the outside face of exterior sheathing surfaces or other approved substrates.
b. Complete detail work at; wall openings, building transitions and penetrations prior to field applications.
c. Install mechanically attached water-resistive vapor permeable barrier sheet membrane over the outside face of exterior sheathing surfaces or substrate, measure and pre-cut into manageable sized sheets to suit the application conditions.
d. Install mechanically attached water-resistive vapor permeable barrier sheet membrane complete and continuous to substrate in a sequential minimal 6 inch (76 mm) horizontal overlapping weatherboard.
e. Stagger all vertical end lap seams and overlap a minimum of 12 inch (305 mm).
f. Roll installed membrane over the integral tape with roller to ensure positive contact and adhesion immediately after the integral tape release film has been removed at the horizontal overlaps.

3.03 BUILDING TRANSITION CONDITIONS

A. Consult published details at WWW.VaproShield.com.
B. 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.
C. Align and position fully self-adhered air barrier transition and flashing membrane, remove protective film and press firmly into place. Provide minimum 6 inch (152 mm) lap on to substrates.
D. Ensure minimum 6 inch (152 mm) overlap at side and end laps of membrane and 6 inch (152 mm) at inside and outside corners, if joints occur at corner locations.
E. Roll membrane and lap seams with roller to ensure positive contact and adhesion, immediately.

3.04 MECHANICAL EQUIPMENT PENETRATIONS

A. Mechanical pipe, electrical conduit and/or duct work must be secured solid into position prior to installation of mechanically attached water-resistive vapor permeable barrier sheet membrane.
B. Electrical services penetrating the wall assembly and mechanically attached water-resistive vapor permeable barrier sheet 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 mechanically attached water-resistive vapor permeable barrier sheet membrane to accommodate sleeve, install VaproLiqui-Flash to seal the barrier membrane to ductwork or preformed flange sleeve.
E. For pipe penetrations, refer to manufacturer's standard details.

3.05 WINDOW, DOOR AND OTHER WALL OPENINGS

A. VaproFlashing™ SA by VaproShield around window or wall openings subject to the opening size and installation of window, door or louver type.
B. VaproFlashing™ SA fully self-adhered air barrier transition and flashing membrane installed 2 ¾ inch (70 mm) into rough wall openings for the sill, jambs and head.
C. Remove release film, align flashing membrane and apply pressure to ensure positive contact. Roll Lap seams to ensure adhesion. Provide lap seams in singled fashion, to shed water.
D. VAPROLIQUI-FLASH VAPOR PERMEABLE WATER RESISTIVE FLASHING FOR ROUGH OPENINGS
    1. Download Installation Instructions at http://vaproshield.com/public-documents/installation-instructions.
    2. Liquid-applied window and door flashing shall be VaproLiqui-Flash™ by VaproShield, a liquid-applied vapor permeable air barrier flashing material with resistance to moisture and air leakage properties compatible with the primary weather resistant air barrier membrane.
    3. Apply a 12-15 wet mil (0.030-0.038 mm) coating onto the installed VaproFlashing™ SA, 1 inch (25.4 mm) onto the face continuing into the rough opening, covering the 2 ¾ inch (70 mm) VaproFlashing™ SA and the remaining exposed rough opening surface.
E. THROUGH-WALL FLASHING MEMBRANE VAPRO-SS FLASHING VAPOR IMPERMIABLE FLASHING
    1. Download Installation Instructions at http://vaproshield.com/public-documents/installation-instructions.

2. Apply through-wall self-adhered flashing membrane along the base of masonry veneer walls and over shelf angles as detailed.
    a. Press membrane firmly into place, overlap minimum 3 inches (76 mm) at all laps. Promptly roll all surfaces using a hand roller to ensure good adhesion.
    b. Applications shall form a continuous flashing membrane and shall extend up a minimum of 6 inches (15 cm) up the back-up wall.
    c. Seal the top edge of the membrane where it meets the substrate using VaproBond™. Trowel-apply a feathered edge to seal termination to shed water or install VaproTermination Bar and sealant at the top edge.
    d. Install through-wall flashing membrane 1/2 inch (13 mm) from outside edge of veneer. Provide “end dam” flashing as per brick industry standards.

SPEC WRITERS NOTE: Rough opening flashing system includes two components. Part I: VaproFlashing SA™ Self-Adhered or VaproFlashing™ Water-Resistive Vapor Permeable Air Barrier Sheet and Part II: VaproLiqui-Flash™ or as Alternate, Vapro-SS Flashing™. Vapro-SS Flashing™ is an optional replacement for Part II flashing system or in addition to VaproLiqui-Flash.

F. OPTIONAL VAPRO-SS FLASHING VAPOR IMPERMIABLE FLASHING FOR ROUGH OPENINGS
    1. Self-Adhered stainless steel membrane for window and door flashing shall be Vapro-SS Flash™ by VaproShield, an impermeable air and water barrier flashing material, replaces VaproLiqui-Flash. Not recommended for wood framing.
    2. Apply Vapro-SS Flash™, 1 inch (25.4 mm) onto the face continuing into the rough opening, covering the 2 ¾ inch (70 mm) Vapro-SS Flash™ and the exposed rough opening surface. Roll installed flashing immediately after installation with roller to insure positive contact and adhesion with substrate.
G. OPTIONAL WATER-RESISTIVE FLASHING AND PENETRATION TAPES
    1. Tapes shall be VaproTape™ by VaproShield: Black, butyl, UV stable, single sided, moisture-resistant flexible tape with adhesive backing having the following properties:
        a. VaproTape™ (Single-Sided): 2 inch (5.08 cm), 3 inch (7.62 cm) or 4 inch (10.16 cm) wide seam tape

3.06 HORIZONTAL INSTALLATION
A. For horizontal applications, align sheets and begin installation of mechanically attached water-resistive weather barrier membrane at bottom or lowest point of wall.
B. To avoid misalignment of subsequent applications, it is recommended to pre-mark or "Snap" a level line to work from.
C. Measure and pre-cut into manageable sized sheets to suit the application conditions.
D. Allow for excess material at bottom of wall to accommodate tie-ins and connections to adjacent surfaces.
E. Align and position mechanically attached water-resistive weather barrier membrane. Provide minimum 6 inch (152 mm) overlap at the horizontal sides, remove release film of the integrated tape and press firmly into place. Stagger all vertical end lap seams and overlaps a minimum of 12 inch (305 mm). Roll lapped Integrated Tape seams with roller to ensure contact and adhesion.
F. Add a continuous bead of VaproBond™ adhesive sealant between the vertical overlapping joints and roll the overlapping surfaces to insure continuous contact and adhesion.
G. Install subsequent sheets of mechanically attached water-resistive weather barrier membrane in overlapping weatherboard format. Ensure sheets lay smooth and flat to surfaces. Roll lapped Integrated Tape seams with roller to ensure contact and adhesion.
H. Refer to http://vaproshield.com/installation/instructions for the most current and complete installation instructions.

3.07 OPTIONAL BATTENS, VENTILATION STRIPS, SHIMS OR MAT 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.
D. Coordinate spacing of VaproShim™ to accommodate cladding system attachments.
E. Coordinate attachment of VaproMat™ to accommodate cladding system attachments.

3.08 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.

3.09 FIELD QUALITY CONTROL

A. Make notification when sections of work are complete to allow review prior to covering mechanically attached water-resistive weather barrier membrane system, with the installation of the cladding.

B. Owner to engage independent consultant to observe substrate and membrane installation prior to placement of cladding system(s) and provide written documentation of observations.

3.10 PROTECTION

A. Protect wall areas covered with mechanically attached water-resistive weather barrier membrane from damage due to construction activities, high wind conditions, and extended exposure to inclement weather.

B. Review condition of mechanically attached water-resistive weather barrier membrane 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 mechanically attached water-resistive weather barrier membrane 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

WallShield® IT Integrated Tape

Water Resistive Vapor Permeable 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
Web: www.vaproshield.com or www.vaproshield.ca

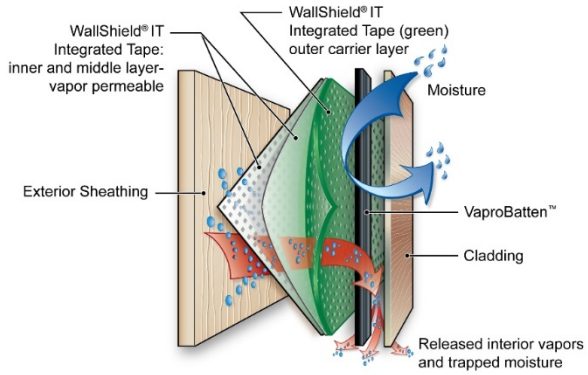
3. Product Description

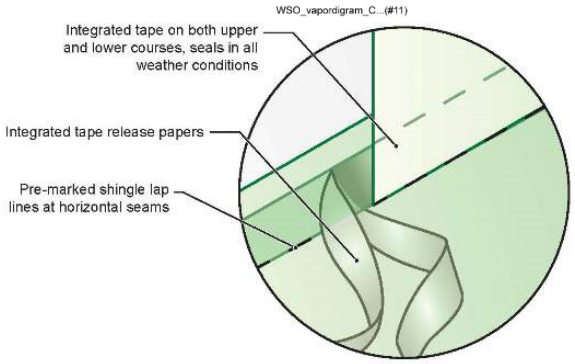
BASIC USE AND APPLICATIONS

WallShield IT Integrated Tape is a primary, water resistive, vapor permeable, air permeable, mechanically attached sheet underlayment for rain screen building enclosure designs. WallShield IT Integrated Tape is used above grade, behind common wall cladding systems such as composite panels, metal siding, wood siding and masonry veneers within a rain screen assembly.

BENEFITS

WallShield IT Integrated Tape is a vapor and air permeable, Water Resistive Barrier (WRB) with Integrated Tape and a pre-marked horizontal Shingle Lap Line. The incorporation of the integrated tape and the pre-marked shingle lap line at the horizontal seams ensures the desired "weatherboard" or "shingle" installation, creating a superior mechanically attached weather resistive barrier. Having the highest vapor permeance in the industry, WallShield IT Integrated Tape can be installed in wet weather, keeping building schedules on time, while drying the building in and allowing saturated substrates to breathe or "dry-out" quickly. Rapid drying time is essential to prevent mold, mildew and rot.





MATERIAL

WallShield IT Integrated Tape is manufactured from 100% spun bonded, high density polypropylene fabric with a multi-layered construction to achieve the ideal combination of performance characteristics. WallShield IT Integrated Tape has the following attributes: vapor permeable, air permeable, high water resistance, UV stabilized, tear resistant, mold resistant, and has Zero VOC's.

ROLL SIZE: 59 inches by 164 Feet (1.5 m x 50 m)

4. Technical Data

Tested to the following industry standards:

Acceptance Criteria for Water Resistive Barriers (AC 38), and ASTM E2556 (Standard Specification for Vapor Permeable Flexible Sheet Water-Resistive Barriers Intended for Mechanical Attachment).

SUSTAINABLE DESIGN BENEFITS

WallShield IT Integrated Tape can remain exposed to UV for up to a maximum of 6 Months (180 days) prior to installation of cladding systems. WallShield IT Integrated Tape membrane is 100 percent recyclable and contributes to LEED points and WallShield IT Integrated Tape is available with a 20 Year Product Warranty.

KEY TEST HIGHLIGHTS

PROPERTY	STANDARD TEST	RESULT
Roll Length		164' (50 m)
Roll Width		59" (1.5 m)
Nominal Thickness		24.6 mil (0.63 mm)
Roll Weight		34 Lbs (15 kg)
Water Resistance	AATC - 127	PASS (22 inch head of water – 5 hours
Water Vapor Transmission	ASTM E398 as per ASTM E96* (Water Method)	161 Perms 1114 g/m²•24 hrs
Tensile Strength	ASTM D882	MD 34 lb/in (6 N/mm) XMD 23 lb/in (4 N/mm)
Breaking Force	ASTM D5034	MD 95 lbf (422 N) CD 77 lbf (344 N)
Low Temp Flexibility	AC38, Section 3.3.4	PASS
Weathering	AC38, Section 4.1	PASS
Flamespread Index	ASTM E84	5 -Class A
Smoke Developed Index	ASTM E84	70 – Class A

***ASTM E96 - Method B (wet cup method) typically gives a more realistic result for permeance than does the Method A (dry cut/desiccant) method.**

FASTENING GUIDELINES

- WallShield IT Integrated Tape is mechanically fastened to the substrate. Stainless Steel Staples or Cap Nails may be used as temporary fasteners during installation but only at locations that will be covered by the shingling of the next layer of material. See complete Installation Instructions on website for additional information.
- DO NOT place fasteners in the Integrated Tape overlap area prior to removal of the release papers and sealing of the Integral Tape seam. Fasteners should be placed in the overlap area only after the Integral Tape release papers have been removed and the horizontal joint is sealed.
- Join horizontal seams by pulling and removing both release papers simultaneously (the underside of the overlapping upper course and the top side of the lower course).
- Exposed fasteners for the WallShield IT Integrated Tape WRB will require VaproCaps and #6, #7, or #8 size corrosion protected bugle headed screws of the appropriate thread design and length for the underlying substrate and framing material.
- VaproCaps are washers that have been extensively tested for both water and air leakage and substitutions are not recommended.

BEST PRACTICE OVERVIEW

- Always install WallShield IT Integrated Tape in a "weatherboard" or "shingle fashion" with the upper courses lapped on top of the courses below, using integrated tape and pre-marked shingle lap lines at horizontal seams.
- Vertical overlaps are to be 12" minimum. Vertical overlaps are to be staggered a minimum of 24" and should not occur directly above or below windows or doors.

STORAGE AND HANDLING

Rolls should be stored on a clean, dry, level surface – either flat or upright – and kept under cover.

GENERAL

- See www.VaproShield.com for complete installation instructions.

LIMITATIONS

- WallShield IT Integrated Tape must be covered within 180 Days (6 Months) of installation.
- Contamination of WallShield IT Integrated Tape membrane with building site chemicals may affect water hold out (e.g. surfactants). Surfactants are present in many building site chemicals and contact should be avoided.

- The WallShield IT Integrated Tape membrane should not be subjected to asphaltic materials, chemicals, or cleaning compounds that could affect the water resistance of the fabric surface; if exposed, replace affected material.
- The WallShield IT Integrated Tape membrane shall not be subjected to paints, stains, sealers, adhesives, sealants, fire proofing, etc.; if exposed, replace affected material.

6. Availability

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

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: WallShield®
Emergency Assistance: 866-731-7663

Chemical Name: N/A
Chemical Family: Polypropylene
Formula: N/A

SECTION II – HAZARDOUS COMPONENTS

NONE

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

SECTION VI – HEALTH HAZARD DATA

Primary Routes of Entry:

- **Eyes:** None
- **Ingestion:** Not a normal exposure
- **Inhalation :** None
- **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
- **Ingestion:** Acute oral LD50 is greater than 2000mg/Kg
- **Inhalation:** N/A
- **Skin:** N/A.

Medical Conditions generally aggravated by exposure: N/A

Emergency and First Aid Procedures:

- **Eyes:** Flush with water.
- **Ingestion:** Contact a physician
- **Inhalation:** N/A
- **Skin:** Remove with waterless hand cleaner. Wash with 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.
Precautions to be taken in handling and storing: Do not store near flame, heat or strong oxidizing agents.

SECTION VIII – CONTROL MEASURES

Respiratory Protection: N/A **Eye Protection:** Chemical goggles
Ventilation: N/A **Protective Gloves:** N/A

SECTION X - NOTES

Note: N/A = not applicable **Date Prepared:** May 5, 2004

Information herein 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. VAPROSHIELD makes no warranty or representation, express or implied that information is accurate, reliable, complete or representative. 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 data shown above in no way modifies, amends, or enlarges any specifications or warranty.

All components of this product are listed in the EPA/TSCA Inventory or Chemical Substances.

VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

WALLSHIELD® IT INTEGRATED TAPE
INSTALLATION INSTRUCTIONS

OVERVIEW

WallShield® IT Integrated Tape is a mechanically attached high performance Water Resistive Barrier (WRB) material designed for above grade use in drainage cavity walls. WallShield IT is recommended for applications requiring a high level of vapor permeability through the building enclosure. WallShield IT provides outstanding liquid water holdout capabilities as a Water Resistive Barrier (WRB) and with the option to use the Integrated Tape located at the horizontal overlaps makes it easier than ever to limit moisture infiltration with a mechanically attached membrane, even in extreme weather locations.

BEST PRACTICES

- Install WallShield IT with approved fasteners in a horizontal, shingle fashion.
- Plan prior to installation to minimize waste and ensure all interfaces and penetrations are identified and detailed correctly to protect against water infiltration.
- Horizontal overlaps must be at 6” to properly seal (optional) the Integrated Tape joint.
- Vertical overlaps are to be 12” minimum (optional: recommended for extreme weather locations, seal with VaproLiqui-Flash or VaproBond™ Adhesive Sealant.
- Vertical overlaps are to be staggered a minimum of 24” and should not occur directly above or below windows or doors.
- Inside and outside corners can be continuous, or if a vertical joint occurs within 24” horizontally, an overlap of 12” minimum in both directions is required, providing a double layer at the corner.
- Cladding attachment components are to be counted in the overall attachment requirements.
- WallShield IT must be correctly shingled with all openings, penetrations and flashings to deflect liquid water to the main drainage plain and ultimately to the exterior of the building.
- Always install WallShield IT in a “weatherboard or shingle fashion” with the upper courses lapped on top of the courses below, use the dotted line provided at 6” below the top edge.
- Sustains six (6) months (180) days UV and climate exposure prior to cladding installation.

SUBSTRATE INFORMATION

WallShield IT can be installed over multiple substrates including: plywood, OSB, framing lumber, gypsum sheathing, rigid insulation, and semi-rigid insulation (mineral fiber).

WallShield IT can be installed over wet substrates to limit further water intrusion and to allow the substrate to dry during the construction period provided the following procedures are implemented:

1. The roof of the structure must be completely dried-in by either temporary measures or permanent installation, in order to prevent water intrusion throughout the remainder of construction.
2. Window and door rough openings should be protected against water intrusion by temporary or permanent measures throughout the remainder of construction.
3. Proper means and methods of drying the entire structure sufficiently prior to closing up the building enclosure are the responsibility of the General Contractor.

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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

FASTENING GUIDELINES

WallShield IT is mechanically fastened to the substrate. Stainless steel staples or cap nails may be used as temporary fasteners during installation but only at locations that will be covered by the shingling of the next layer of material. See the sequential installation details on page 3.

DO NOT place fasteners in the Integrated Tape overlap area prior to removing the release films and sealing the Integrated Tape seam. Fasteners placed in the tape area can tear the release film during removal, resulting in a poor seal. Place fasteners in the overlap area after the Integrated Tape release films are removed and the horizontal joint is sealed.

Exposed fasteners for the WallShield IT will require VaproCaps and #6,#7, or #8 size corrosion resistant bugle headed screws of the appropriate thread design and length for the underlying substrate and framing material.

VaproCaps are washers that have been extensively tested for water leakage. Substitutions are not recommended.

Cladding attachments that penetrate the WRB should be factored into the overall fastening quantity and placement.

Quantity and placement of fasteners will vary depending on the following variables:

- Length of time the installed WallShield IT WRB will be exposed prior to cladding attachments installation such as: furring strips, battens, hat channels, masonry ties, metal extrusions, etc.
- Spacing between the cladding attachments (i.e. 16”, 24”, 32” o.c., etc.)
- Type and material chosen for exterior cladding
- Local weather conditions
- Plywood and OSB sheathing applications: Use coarse threaded bugle head design wood screws in the above mentioned sizes, install with VaproCaps only in the sheathing, without contacting the underlying framing members.
- Gypsum Sheathing and Metal Framing: Use self-drilling fine threaded screws in the above mentioned sizes and shape with VaproCaps installed into the underlying metal framing or strapping.
- Fasteners for VaproBattens, furring strips, cladding clips, hat channels, etc. should be evaluated for liquid water holdout properties before selection or installation. Gasketed fasteners are recommended whenever possible. Contact VaproShield Technical Support for additional information on fasteners.

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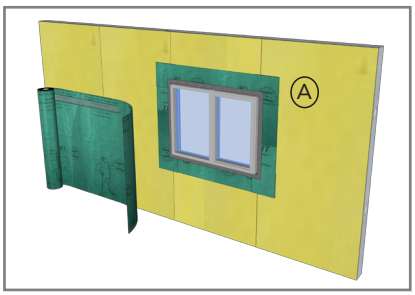
VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

WALLSHIELD® IT INTEGRATED TAPE
INSTALLATION INSTRUCTIONS

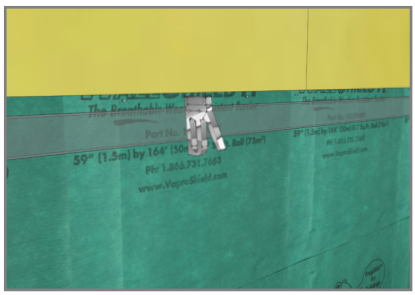
BEST PRACTICE INSTALLATION SEQUENCE FOR WRAPSHIELD IT STEPS 1-10



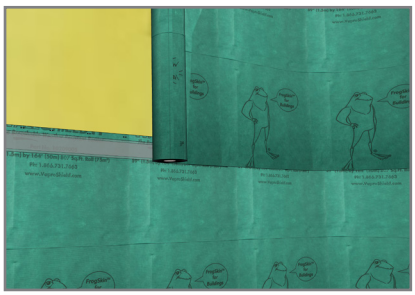
1. After flashing the window's rough opening, begin installation at the base of the wall, progressing in a shingle fashion upwards.

Snap a level chalk line for guidance.

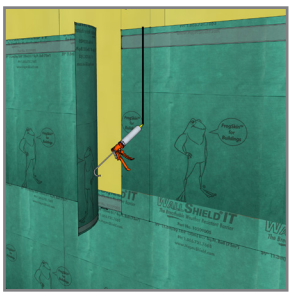
Ⓐ See VaproShield.com for window options and flashing installation guide.



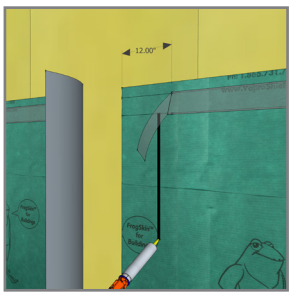
2. Install with SS staples in the top 2" above the Integrated Tape. Avoid stapling in the adhesive strip area of the Integrated Tape.



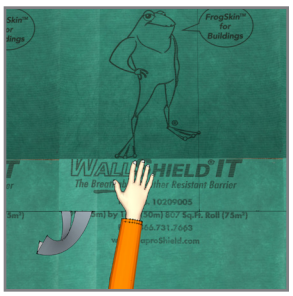
3. Line up the bottom of the upper course of material with the dotted line, creating a 6" overlap.



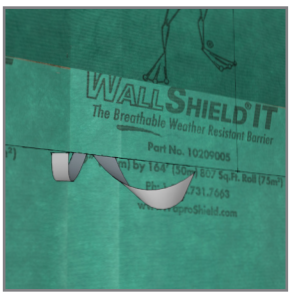
4. Overlap vertical seams by 12" minimum, seal with VaproLiqui-Flash or VaproBond Adhesive Sealant if necessary.



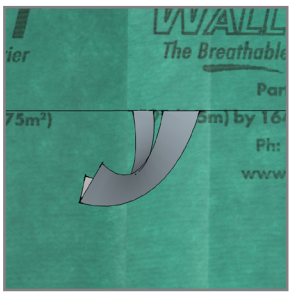
5. Remove release film from top of adhesive strip where flap overlaps.



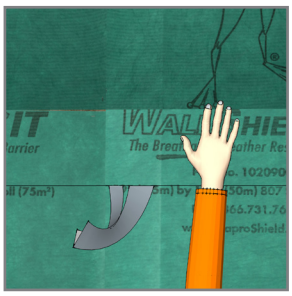
6. Lay overlapping layer of WallShield IT onto vertical sealant joint and smooth with hand pressure.



7. Optional for extreme exposure locations: Join horizontal seams by peeling back both release films, starting from where horizontal joint meets vertical joint.



8. Optional for extreme exposure locations: Line up both release films together so they can be pulled down the wall with one hand.



9. Optional for extreme exposure locations: Use the opposite hand to smooth the two layers together as the release film is removed.

10. Optional for extreme exposure locations: Smooth out wrinkles with hand pressure and seal the adhesive strips using a hand roller.

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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). 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

VaproCaps

THE VAPROSHIELD SYSTEMS APPROACH

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

Complete System of Breathable Membranes	+	Rain Screen Design Components	+	3D Window Flashing Elements	=	High Performance Building Envelope Systems

VaproCaps

VaproCaps are 1¾ inch diameter preformed head caps with a center throat hole, sealing the membrane at fastener penetration. They are designed and tested to withstand wind loads and protect against water intrusion at screw penetrations. VaproCaps are made of 100% virgin polypropylene with a carbon black UV inhibiter.

VaproCap Features:

- Low profile design
- High density, impact resistant, plastic plates will not rust, are thermal resistant and tough.
- Center-crossed choke hole creates tolerance fit when pre-assembled with properly sized bugle head screws (#6, #7, or #8).
- Unique, round shape design with the outside circumference tapered flat, evenly distributes bearing load without any sharp edges or corners.
- VaproCaps have a low profile design and when installed correctly with screws driven straight and to the proper depth, will firmly seat and seal around the fastener penetration.
- VaproCaps are required on all mechanically attached VaproShield Air Barrier systems.

Testing

VaproCaps have been tested to ASTM E331 on various substrates, with simulated wind driven rain loads of approximately 60 mph for a period of two hours with no leakage.

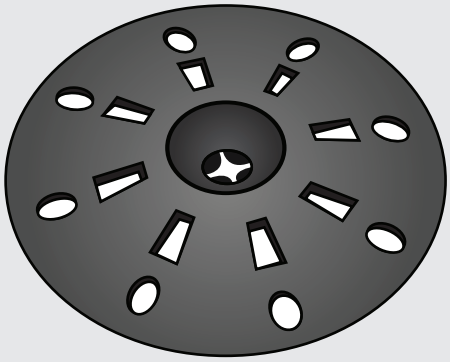
Specifications

Round 1¾" diameter plastic plate, .050" to .060" gauge thick - tapered

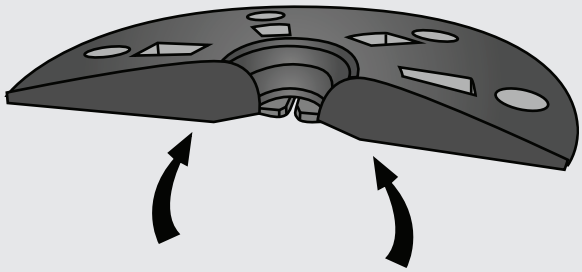
Designed to work with corrosion resistant bugle head screws (#6, #7, or #8)

Washer fasteners/screws must be driven straight and not over or under driven

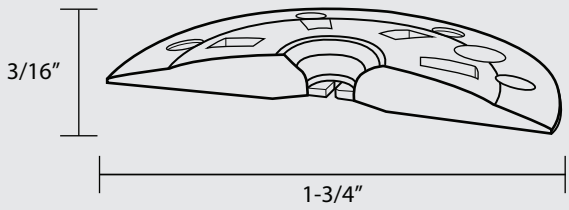
Contact VaproShield for fastener spacing recommendations.

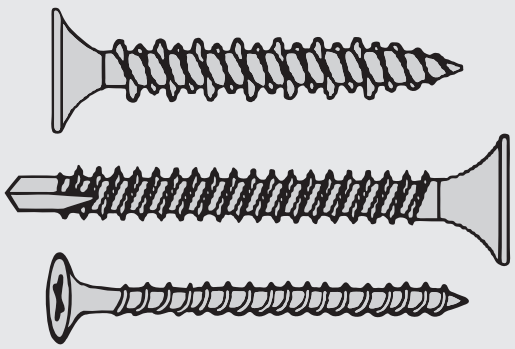


VaproCaps are intended only for installation of mechanically attached VaproShield membranes.



Center cup pressure designed to seal around screw penetration.





Use only corrosion resistant bugle head screws (#6, #7, or #8).

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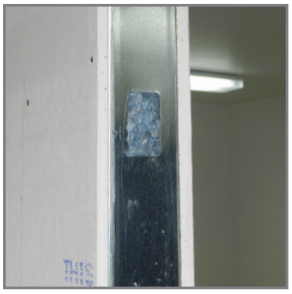
VaproShield Canada | 101-1001 West Broadway Suite 545 | Vancouver, B.C. V6H 4E4, Canada | Toll Free: 1.866.871.8263 | www.VaproShield.ca

VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

VAPROLIQUI-FLASH WITH VAPROFLASHING SA SELF-ADHERED INSTALLATION INSTRUCTIONS

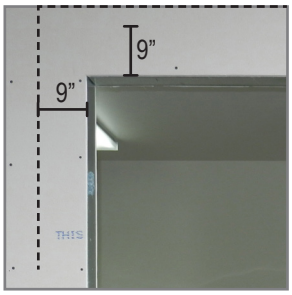
BEST PRACTICE INSTALLATION SEQUENCE WITH VAPROFLASHING SA SELF-ADHERED

STEPS 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®
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). 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

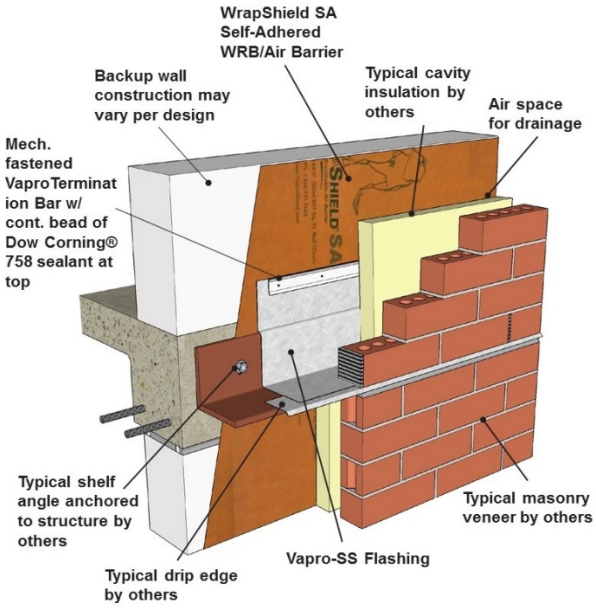
BENEFITS

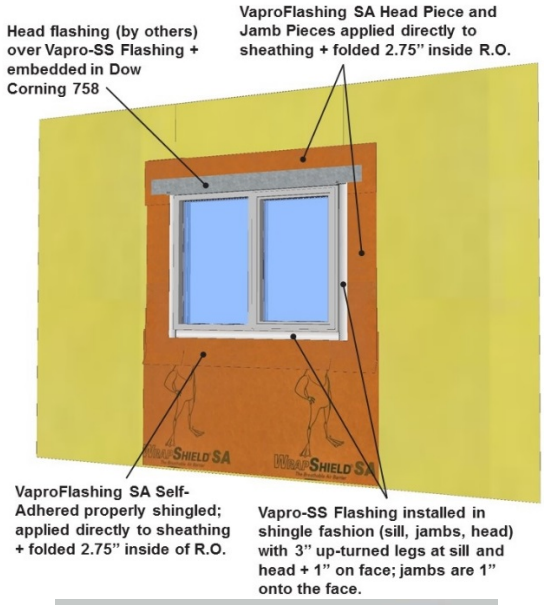
Vapro-SS Flashing is a flexible self-adhered flashing with a removable release liner that can be installed in temperatures ranging from 20 ˚F (-6 °C) to 170 ˚F (77 °C), stays stable and air tight from -70 ˚F (-57 °C) to 200 ˚F (93 °C). Vapro-SS Flashing easily adheres to the majority of air barriers, 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

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

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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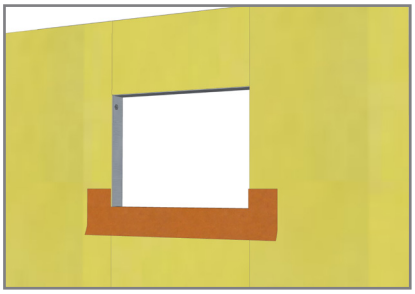
VAPRO SHIELD®
Breathable Membrane Systems for Roofs & Walls

VAPRO-SS FLASHING™

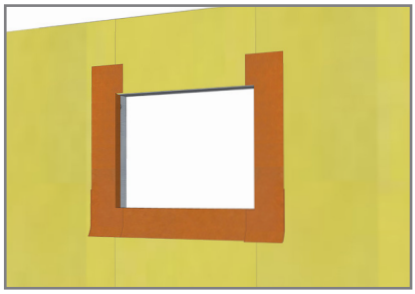
Self-Adhered Stainless Steel Flashing

INSTALLATION INSTRUCTIONS

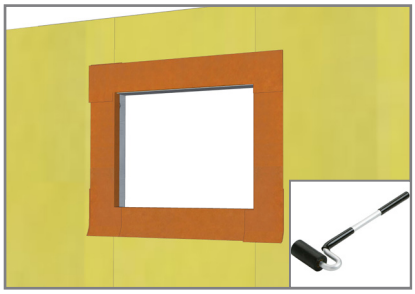
BEST PRACTICE SEQUENCE WITH VAPRO-SS FLASHING STEPS 1-9



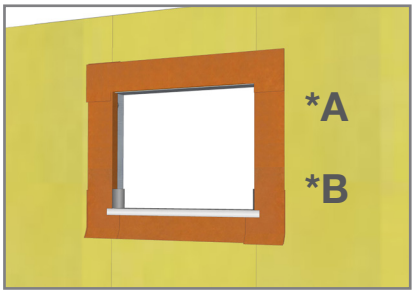
1. Install VaproFlashing SA Self-Adhered into sill with 2.75” folded into Rough Opening (R.O.) 9” left on face, with bottom 6” of release film to remain attached.



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



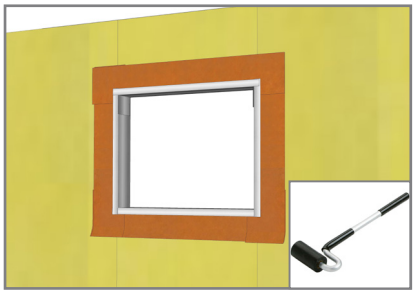
3. Install head piece with 2.75” folded into R.O. 9” to be left on face. Roll all VaproFlashing SA (orange) sections with weighted roller to ensure full contact.



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

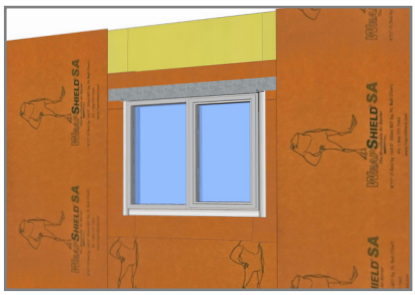
5. Install Vapro-SS Flashing at jambs in shingle fashion with 3” up-turned legs at sill and head + 1” on face; jambs are 1” onto the face.



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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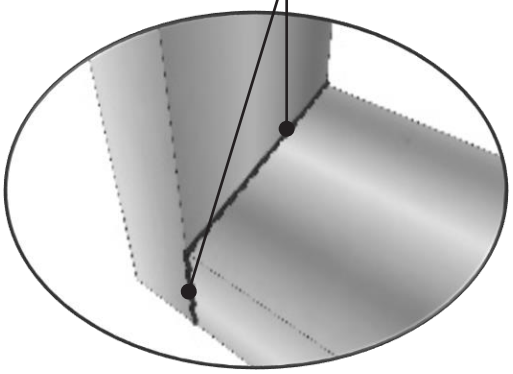
VAPRO-SS FLASHING™

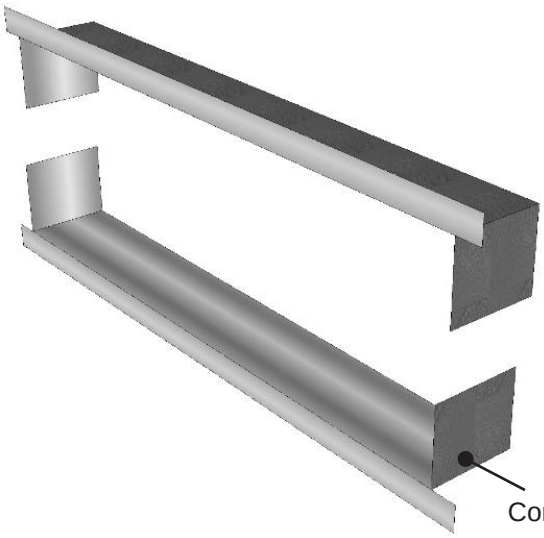
Self-Adhered Stainless Steel Flashing

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.

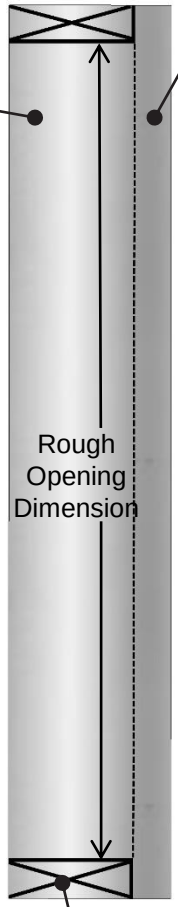




Completed flashing with folds

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

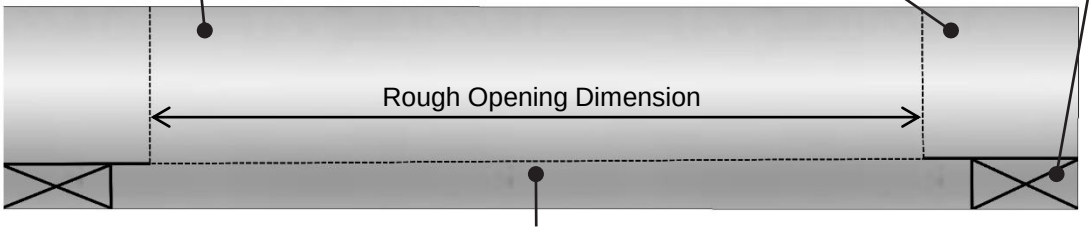
Fold toward back of flashing, creating 1" flap to adhere to RO face



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

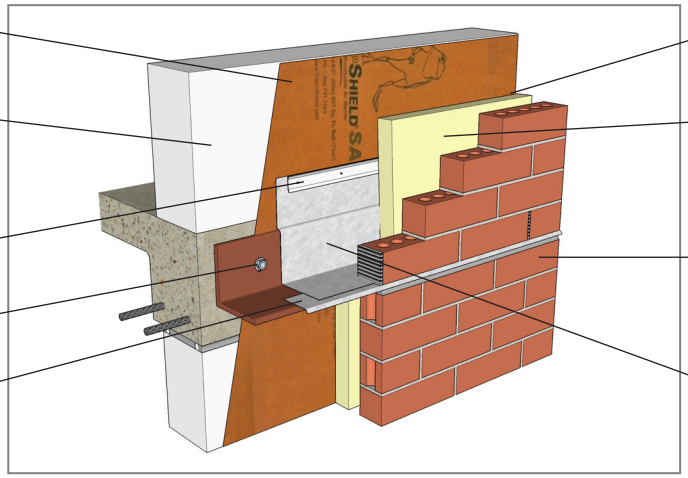
VAPRO-SS FLASHING™

Self-Adhered Stainless Steel Flashing

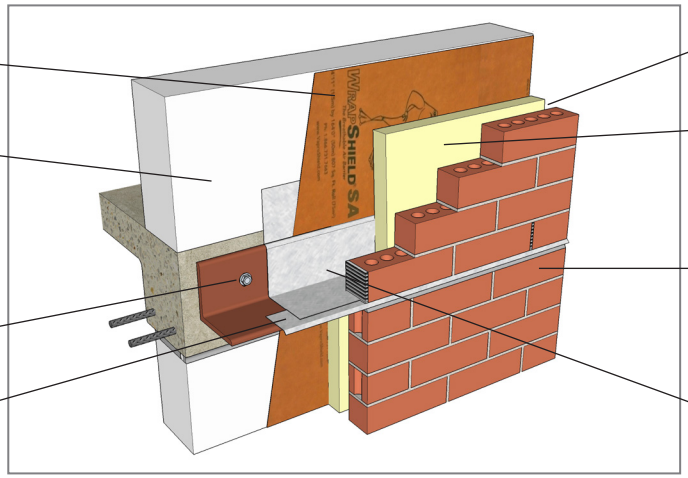
INSTALLATION INSTRUCTIONS

Thru-wall Applications

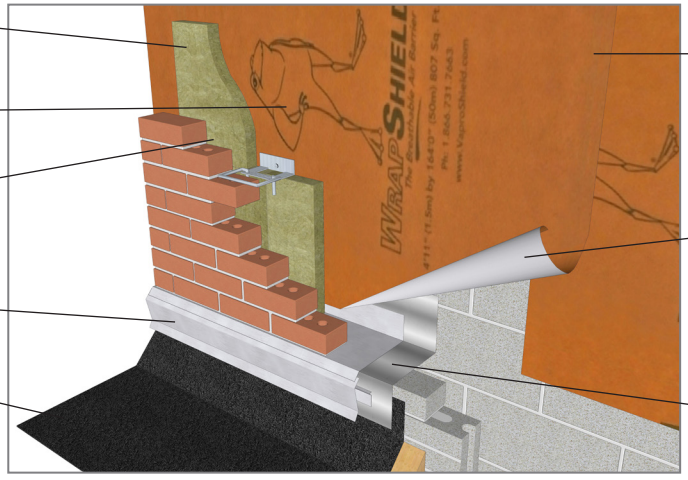
Thru-wall Shelf Angle Detail with VaproTermination Bar



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

VAPROBOND™

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

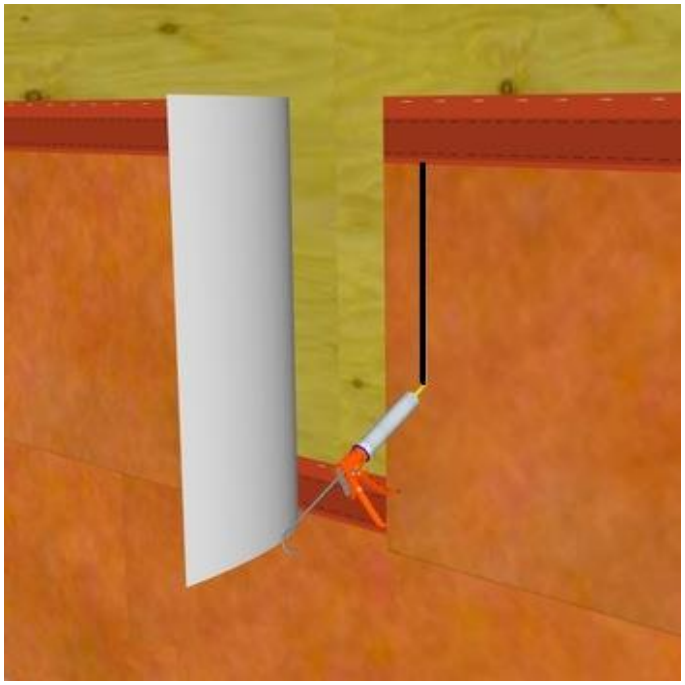
OVERVIEW

VAPROBOND is a single component 100% silicone sealant designed to adhere low surface energy materials to themselves. Use VAPROBOND to bind layers of VaproShield membranes or adhere to typical construction material surfaces.

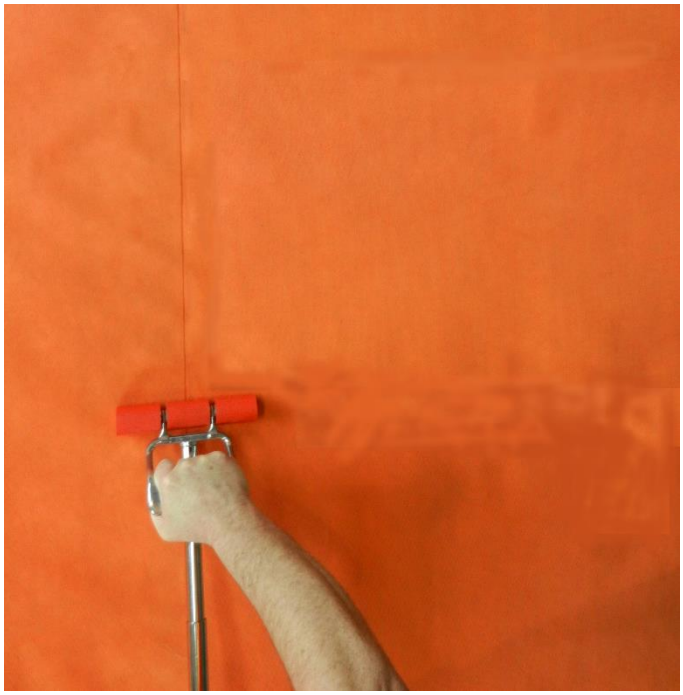
VAPROBOND simplifies the process of producing watertight airtight details.

BENEFITS

- Bonds to most common building materials without priming to produce a durable, structural, air and moisture tight seal.
- Excellent weatherability
- UV stable
- Remains flexible under extreme temperatures
- Usable over a wide temperature range.(-50 ° to 300 °F (-45° to 149 °C)
- Contributes to improved air tightness of water resistant air barriers, sealing overlaps and penetrations.



VAPROBOND is a gunnable adhesive sealant for VaproShield's membranes.



Hand roller pressure used to seal the seam for an air and water tight seal.

MATERIAL

VAPROBOND is a black silicone-based adhesive sealant. This single-component, is easy to gun, spread and tool to produce a highly durable, seal.

PACKAGING: 20 oz. (592 ml) sausages

4. Technical Data

VAPROBOND meets or exceeds ASTM-C-920 type S, Grade NS, Class 25.

VAPROBond™	
Shelf Life	12 months stored in unopened sausages at temperatures lower than 80 °F (27 °C)
Service Temperature	-50 ° to 300 °F (-45° to 149 °C)
Water Vapor Transmission ASTM E96	6.5 perms @ 14 mil (0.36 mm)
Dynamic Joint Movement ASTM C719	±25 %
Elongation ASTM D412	1500 %
Tensile Strength ASTM D412	165 psi
Modulus, 100 % Elongation ASTM D412	33 psi
Elongation at Break	400%
Peel Strength	12 pli
Tack-Free Time ASTM C679	50 minutes
Adhesion ASTM D794	Pass
VOC Content ASTM D3960	80 g/L

5. 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.

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 VAPROBOND.

SURFACE AND AIR TEMPERATURES
Surface and ambient temperatures should be above -20 °F (-29 °C) and below 120 °F (48.9 °C) during application and drying. It is recommended that the sealant-adhesive be kept above 40 °F (4.4 °C) prior to installation. Do not apply VAPROBOND when temperature is at or below dew point or frost begins to form on the surface. Wind and high temperatures will accelerate drying of VAPROBOND.

Though VAPROBOND tolerates rain after installation, do not apply to surfaces with standing water or frost.

EQUIPMENT
Apply using a professional caulking gun. When needed use a DRY joint knife, trowel, or spatula to spread the product. Do not use soapy water or alcohol when tooling or spreading. Using a hand roller to apply firm pressure to the two overlapping membrane surfaces, spreading the adhesive-sealant to insure water/air tight seal.

CURING AND DRYING
At 77 °F (25 °C) and 50% relative humidity, product is tack-free 25-35 minutes. Higher temperature and/or humidity will shorten this time. Cured service temperatures: -50 ° to 300 °F (-45° to 149 °C)

STORAGE & HANDLING
Store VAPROBOND unopened sausages at temperatures lower than 80 °F (27 °C). Do not open sausage until preparation work has been completed. Do not alter or mix with other chemicals. When stored at or below 80 °F (27 °C) VAPROBOND has a shelf life of 12 months after the date of manufacture. Do not double stack pallets. Dispose of unused product and container in accordance with local, state and federal regulations.

LIMITATIONS
VAPROBOND should not be used in the following:

- Water immersion or below grade or in locations designed to be continuously immersed in water.
- On surfaces requiring painting with traditional organic based coatings.
- As a structural glazing sealant

CLEANUP
Immediately remove all excess VAPROBOND in undesired areas with mineral spirits. Clean tools and equipment with mineral spirits or similar solvent immediately after use. Observe all manufacture's safety precautions. Remove cured VAPROBOND mechanically using a sharp-edged tool.

6. Safety Information

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

FIRST AID
Ingestion: DO NOT induce vomiting. Have victim rinse mouth with water, if conscious. 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.

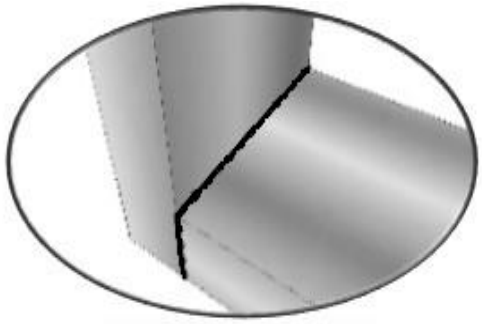
24-Hour Emergency Information: INFOTRAC at 800-535-5053.

7. 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.

8. 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.

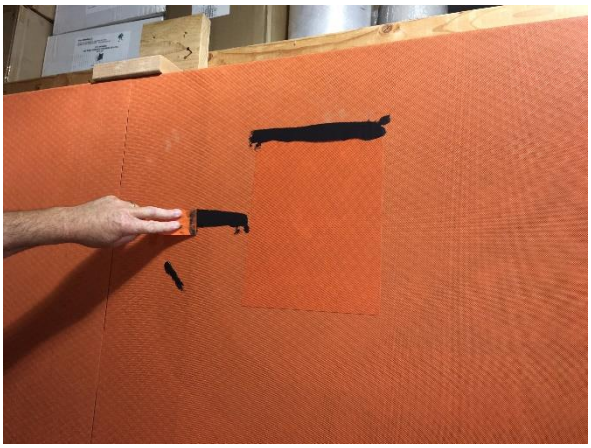


Using VAPROBOND the seal the Vapro-SS Flashing corner of a rough opening.

Apply VAPROBOND at a minimum 3/8 " bond line to the reverse lapped membrane.

Use a DRY joint knife, trowel, or spatula to tool sealant.

Membrane abrasion and hole, prior to repair with VAPROBOND.



Apply VAPROBOND to the abrasion and reverse lap of the patch to ensure a water and air tight seal. Use a DRY joint knife, trowel, or spatula to tool sealant.

VAPROSHIELD®
Breathable Membrane Systems for Roofs & Walls

SAFETY DATA SHEET

Issue Date 2016.07.28 VaproBond™

SECTION 1 – PRODUCT IDENTIFICATION

Product Name:	VaproBond™	
Product Codes:	60309800	
Manufacture:	VAPROSHIELD, LLC 915 26TH Ave. NW, #C-5 Gig Harbor, WA 9335 866-731-7663	
Contact 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:	Silicone Sealant	
Chemical Family:	Silicone Sealant	
Formula:	Mixture - N/A	

SECTION 2 - HAZARDS IDENTIFICATION

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: This product has been classified per GHS Standards.

Classification: Acute Oral Toxicity Cat. 5, Acute Skin Toxicity Cat. 5, Skin Sensitization Cat. 1, Skin Irritation Cat. 3, Eye Irritation Cat. 3, Aquatic Acute Toxicity Cat. 3, Aquatic Chronic Toxicity Cat. 3

Signal Word: Warning Hazard Statement Codes: H303 + H313, H316 + H320, H317, H412

Precautionary Statement Codes: P261, P264, P272, P273, P280, P302 + P352, P321, P333 + P313, P362 + P364, P321, P403, P501

Hazard Symbols/Pictogram: GHS08

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: This product is a smooth paste with a mild, slightly solvent odor that comes in various colors.

HEALTH HAZARDS: CAUTION! May cause mild eye, and skin irritation, especially if exposure is prolonged. May be harmful if ingested. May cause skin sensitization in susceptible individuals.

FLAMMABILITY HAZARD: This product is combustible and can ignite if exposed to high temperature or direct flame.

REACTIVITY HAZARD: This product is not reactive.

ENVIRONMENTAL HAZARD: This product has not been tested for environmental impact. This product contains a compound that can cause chronic aquatic toxicity.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS®)

HMIS® is a registered trademark of the National Paint and Coatings Association.

Health	**2***
Flammability	**1**
Physical Hazard	**0**

See Section 16 for definitions of ratings

0 = Minimal 3 = Serious
1 = Slight 4 = Severe
2 = Moderate * = Chronic

CANADIAN WHMIS CLASSIFICATION: Class D2B. See Section 15 (Regulatory Information) for all classification details.

U.S. OSHA REGULATORY STATUS: This material has a classification under the Global Harmonization Standard, as applied under OSHA regulations, as given earlier in this Section.

SECTION 3 - COMPOSITION/INFORMATION

Component	CAS-No.	Weight - %
Proprietary Silicone Polymer		20-40%
Synthetic Calcium Carbonate	1317-65-3	20-40%
Precipitated Limestone	471-34-1	15-30%
Methyl tris(methylethyl ketoximo)	22984-54-9	1-8%
Octamethylcyclotetrasiloxane	556-67-2	1-5%
Carbon Black	1333-86-4	1-3%
Water and other components. Each of the other components is present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).		Balance

SECTION 4 - FIRST AID MEASURES

PROTECTION OF FIRST AID RESPONDERS: Rescuers should not attempt to retrieve victims of exposure to this material without adequate personal protective equipment. Rescuers should be taken for medical attention, if necessary.

DESCRIPTION OF FIRST AID MEASURES: Remove victim(s) to fresh air, as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Remove and isolate contaminated clothing and shoes. Seek immediate medical attention. Take copy of label and SDS to physician or other health professional with victim(s).

INHALATION: If dusts of this material are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions.

SKIN EXPOSURE: If the material contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 20 minutes. Do not interrupt flushing. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek immediate medical attention.

EYE EXPOSURE: If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 20 minutes. Do not interrupt flushing.

INGESTION: If this material is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directed by medical personnel. Have victim rinse mouth with water or give several cupfuls of water, if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Dermatitis or other pre-existing skin disorders may be aggravated by exposure to this product.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate exposure.

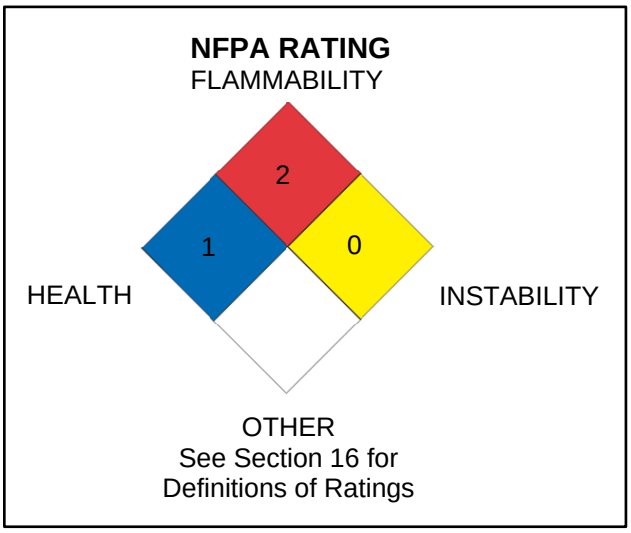
SECTION 5 - FIRE-FIGHTING MEASURES

Flash point: >104°C (>220°F)

Auto ignition temperature: Unknown

Fire and Explosion Hazard: This product is combustible and can be ignited when exposed to its flashpoint. This product contains methylpolysiloxanes which will likely generate formaldehyde at approximately 150°C (300°F) and above, in atmospheres which contain oxygen. Not sensitive to mechanical impact under normal conditions. Not sensitive to static discharge under normal conditions. Closed containers may develop pressure and rupture in event of fire.

Firefighting Instructions: Wear self-contained breathing apparatus and protective suit. Use extinguishing measures that are appropriate for any surrounding fires, including foam, halon, carbon dioxide and dry chemical. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.



SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: An accidental release can result in a fire. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. Eliminate any possible sources of ignition, and provide maximum explosion-proof ventilation. Use only non-sparking tools and equipment during the response. The atmosphere must at least 19.5 percent Oxygen before non-emergency personnel can be allowed in the area without Self-Contained Breathing Apparatus and fire protection.

PERSONAL PROTECTIVE EQUIPMENT: Responders should wear the level of protection appropriate to the type of chemical released, the amount of the material spilled, and the location where the incident has occurred.
Small Spills: For releases of 1 drum or less, Level D Protective Equipment (gloves, chemical resistant apron, boots, and eye protection) should be worn.
Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit, fire-retardant clothing and boots, hard hat, and Self-Contained Breathing Apparatus.**

METHODS FOR CLEAN-UP AND CONTAINMENT:
All Spills: Access to the spill area should be restricted. Spread should be limited by gently covering the spill with polypads. Scrape up or pick-up spilled material, placing in suitable containers. Absorb any residual on appropriate material, such as sand. All contaminated absorbents and other materials should be placed in an appropriate container and seal. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). Dispose of recovered material and report spill per regulatory requirements. Remove all residue before decontamination of spill area. Clean spill area with soap and copious amounts of water.

SECTION 6 - ACCIDENTAL RELEASE MEASURES (Continued)

ENVIRONMENTAL PRECAUTIONS: Minimize use of water to prevent environmental contamination. Prevent spill or rinsate from contaminating storm drains, sewers, soil or groundwater. Place all spill residues in a suitable container and seal. Do not discharge effluent containing this product into streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and when the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

OTHER INFORMATION: U.S. regulations may require reporting of spills of this material that reach surface waters if a sheen is formed. If necessary, the toll-free phone number for the US Coast Guard National Response Center is 1-800-424-8802.

REFERENCE TO OTHER SECTIONS: See information in Section 8 (Exposure Controls – Personal Protection) and Section 13 (Disposal Considerations) for additional information.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Use only with adequate ventilation. Keep away from heat and flame. In the event of a spill, follow practices indicated in Section 6: ACCIDENTAL RELEASE MEASURES.

CONDITIONS FOR SAFE STORAGE: This product is stable under ordinary conditions of handling, use and storage. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10: STABILITY AND REACTIVITY). Keep container tightly closed when not in use. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. To prolong shelf life, store at temperatures below 26°C (80°F).

PRODUCT END USE: This product is used as a sealant. Follow all industry standards for use of this product.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protection Equipment

Respiratory Protection: Respiratory protection should not be required under normal use and handling. Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Exposure Guidelines: Exposure Limit Values

Chemical Name	Guideline	Value
Calcium Carbonate, Natural & Synthetic	PEL (OSHA) REL (NIOSH)	5 mg/m^3 8 hr. TWA Respirable fraction 15 mg/m^3 8 hr. TWA Total dust 5 mg/m^3 8 hr. TWA Respirable fraction 10 mg/m^3 8 hr. TWA Total dust
Carbon Black	TLV (ACGIH) PEL (OSHA) REL (NIOSH) MAK (DFG)	3.5 mg/m^3 8 hr. TWA Respirable fraction 15 mg/m^3 8 hr. TWA Total dust 3.5 mg/m^3 (0.1 in the presence of PAHs, as PAHs: 10-hr TWA) As inhalable dust
Octamethylcyclotetrasloxane	NE	NE
Methyl tris(methylethyl ketoximo)	NE	NE
Proprietary Silicone Polymer	NE	NE

NE = Not Established. See Section 16 for Definitions of Terms Used.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION (Continued)

PERSONAL PROTECTIVE EQUIPMENT (PPE): *The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including the Respiratory Protection Standard (29 CFR 1910.134*), *Eye Protection Standard 29 CFR 1910.13, the Hand Protection Standard 29 CFR 1910.138, and the Foot Protection Standard 29 CFR 1910.136), equivalent standards of Canada (including the Canadian CSA Respiratory Standard Z94.4-93-02, the CSA Eye Protection Standard Z94.3-M1982*, *Industrial Eye and Face Protectors and the Canadian CSA Foot Protection Standard Z195-M1984, Protective Footwear). Please reference applicable regulations and standards for relevant details.*

Eye/Face Protection: Use approved safety goggles or safety glasses. If necessary, refer to appropriate regulations and standards.

Skin Protection: Wear chemical impervious gloves (e.g., Nitrile or Neoprene). Use triple gloves for spill response. If necessary, refer to appropriate regulations and standards.

Body Protection: Use body protection appropriate for task (e.g., lab coat, coveralls, Tyvek suit). If necessary, refer to the OSHA Technical Manual (Section VII: Personal Protective Equipment) or appropriate Standards of Canada. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in appropriate regulations and standards.

Respiratory Protection: If vapors from this product are created during use, use appropriate respiratory protection. If necessary, use only respiratory protection authorized in appropriate regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under appropriate regulations and standards.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form: Smooth paste
Molecular Weight: Mixture
Odor: Mildly solvent-like
Specific Gravity: 1.6
Relative Vapor Density: (air = 1): Heavier than air
Solubility in Water: Insoluble
Melting/Freezing Point/range: Not available
VOC (less water & exempt): 80 g/L
Flash Point: >104°C (>220°F)
pH: Not available

Color: Black
Molecular Formula: Mixture
Odor Threshold: Not available
Vapor Pressure, mm Hg @20°C: Not established
Evaporation Rate (BuAc = 1): <1
Other Solubilities: Not available
Boiling Point: Not established
Weight % VOC: <5%
Autoignition Temperature: Not established

Flammable Limits (in air by volume, %): Lower: Not established; **Upper:** Not established
Coefficient of Oil/Water Distribution (Partial Coefficient): Not established
How To Detect This Substance (Identifying Properties): The appearance of this product may act as an identifying property in the event of an accidental release.

SECTION 10 – STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under normal circumstances of use and handling. Methylethyl Ketoxime is generated during curing.

CONDITIONS TO AVOID: Avoid contact with incompatible chemicals and exposure to extreme temperatures.

INCOMPATIBLE MATERIALS: This product is not compatible with strong acids and oxidizers and may have some compatibility with aluminum, ammonium salts and mercury/hydrogen mixtures, potassium chlorate, nitrogen tetroxide, tetranitromethane, silver perchlorate, sulfur dichloride, sulfuric acid, uranium hexafluoride.

SECTION 10 – STABILITY AND REACTIVITY (Continued)

HAZARDOUS DECOMPOSITION PRODUCTS:

***Combustion*:** Thermal decomposition of this product can generate dusts, irritating fumes, and toxic gases (e.g., calcium, carbon, nitrogen and silicone oxides, aldehydes, formaldehyde, various hydrocarbons).
Hydrolysis: Methylethyl ketoxime.

POSSIBILITY OF HAZARDOUS REACTIONS/POLYMERIZATION: This product is not expected to undergo hazardous polymerization, decomposition, condensation, or self-reactivity.

SECTION 11 – TOXICOLOGY INFORMATION

POTENTIAL HEALTH EFFECTS: The most significant routes of occupational exposure are inhalation and contact with skin and eyes. The symptoms of exposure to this product are as follows:

Contact with Skin or Eyes: Contact may mildly irritate the skin and cause redness and discomfort. Prolonged or repeated skin contact may cause dermatitis (dry, red skin). Eye contact may cause redness, pain, and tearing. Skin contact may cause sensitization and allergic reaction in susceptible individuals. Symptoms may include redness, itching and rash.

Skin Absorption: Prolonged skin contact may cause adverse systemic effect by skin absorption as described under ingestion or inhalation, as well as sensitization and allergic reaction to the skin.
Ingestion: If the product is swallowed, it can irritate the mouth, throat, and other tissues of the gastro-intestinal system and may cause nausea, vomiting, and diarrhea. Ingestion of large amounts may be harmful and cause systemic toxicity.
Inhalation: Exposure to vapors of this product generated during curing, or dust of this product generated during use after curing may mildly irritate the respiratory tract and cause coughing and sneezing. Vapors or fumes when used in an enclosed space, if heated or during curing may cause irritation of the respiratory system, symptoms include nose irritation, dry or sore or burning throat, runny nose, shortness of breath.
Injection: Accidental injection of this product (e.g. puncture with a contaminated object) may cause burning, redness, and swelling in addition to the wound.

TARGET ORGANS: Acute: Skin, eyes. Chronic: Skin.

CHRONIC EFFECTS: Prolonged or repeated skin contact may cause dermatitis (dry, red skin), sensitization to the skin.

SECTION 11 – TOXICOLOGY INFORMATION (Continued)

TOXICITY DATA: There are currently no toxicity data available for this product; the following toxicology information is available for components greater than 1% in concentration

CALCIUM CARBONATE, NATURAL:

TDLo (Intravenous-Rat) 30 mg/kg: Vascular: BP lowering not characterized in autonomic section; Lungs, Thorax, or Respiration: changes in lung weight; Blood: other changes

TCLo (Inhalation-Rat) 84 mg/m3/4 hours/40 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis (interstitial); Liver: other changes; Kidney/Ureter/Bladder: other changes

TCLo (Inhalation-Rat) 250 mg/m3/2 hours/24 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis)

CALCIUM CARBONATE, SYNTHETIC:

Standard Draize Test (Skin-Rabbit) 500 mg/24 hours: Moderate

Standard Draize Test (Eye-Rabbit) 750 µg/24 hours: Severe

TDLo (Oral-Human) 4.08 gm/kg/30 days-intermittent: Vascular: BP elevation not characterized in autonomic section; Gastrointestinal: changes in structure or function of endocrine pancreas; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

LD_{50} (Oral-Rat) 6450 mg/kg

TDLo (Oral-Rat) 60 gm/kg: Gastrointestinal: hypermotility, diarrhea, other changes

TDLo (Oral-Rat) 10 mg/kg: Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

OCTAMETHYLCYCLOTETRASILOXANE:

Standard Draize Test (Skin-Rabbit) 500 mg/24 hours: Mild

Standard Draize Test (Eye-Rabbit) 500 mg/24 hours: Mild

LC_{50} (Inhalation-Rat) 36 gm/m3/4 hours: Behavioral: excitement; Lungs, Thorax, or Respiration: dyspnea Skin and Appendages: hair

LD_{50} (Oral-Rat) 1540 mg/kg: Behavioral: tremor

LD_{50} (Skin-Rat) 1770 mg/kg: Behavioral: tremor; Gastrointestinal: changes in structure or function of salivary glands; Liver: other changes

LD_{50} (Skin-Rabbit) 794 µL/kg: Kidney/Ureter/Bladder: hematuria

TCLo (Inhalation-Rat) 700 ppm/6 hours: Endocrine: changes in gonadotropins

TCLo (Inhalation-Rat) 300 ppm/6 hours/13 weeks-intermittent: Liver: changes in liver weight

TCLo (Inhalation-Rat) 700 ppm/6 hours/4 weeks-intermittent: Liver: changes in liver weight; Nutritional and Gross Metabolic: weight loss or decreased weight gain; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: cytochrome oxidases (including oxidative phosphorylation)

TCLo (Inhalation-Rat) 70 ppm/6 hours/4 weeks-intermittent: Liver: other changes, changes in liver weight; Endocrine: changes in thyroid weight

TCLo (Inhalation-Rat) 35 ppm/6 hours/91 days-intermittent: Blood: changes in serum composition (e.g. TP, bilirubin, cholesterol); Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: multiple enzyme effects

TCLo (Inhalation-Rat) 488 ppm/6 hours/91 days-intermittent: Lungs, Thorax, or Respiration: other changes; Blood: normocytic anemia; Related to Chronic Data: changes in testicular weight

TCLo (Inhalation-Rat) 488 ppm/6 hours/91 days-intermittent: Liver: changes in liver weight; Kidney/Ureter/Bladder: changes in kidney weight; Endocrine: changes in thymus weight

TCLo (Inhalation-Rat) 898 ppm/6 hours/91 days-intermittent: Lungs, Thorax, or Respiration: other changes; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: multiple enzyme effects, Metabolism (Intermediary): lipids including transport

TCLo (Inhalation-Rat) 898 ppm/6 hours/91 days-intermittent: Endocrine: changes in adrenal weight; Related to Chronic Data: death Related to Chronic Data: changes in ovarian weight

TCLo (Inhalation-Rat) 700 ppm/104 weeks-intermittent: Liver: changes in liver weight; Kidney/Ureter/Bladder: other changes, changes in kidney weight

TCLo (Inhalation-Rat) 700 ppm/104 weeks-intermittent: Nutritional and Gross Metabolic: weight loss or decreased weight gain; Related to Chronic Data: death

TCLo (Inhalation-Rat) 700 ppm/52 weeks-intermittent: Liver: other changes

TCLo (Inhalation-Rat) 30 ppm/26 weeks-intermittent: Liver: changes in liver weight

TCLo (Inhalation-Rat) 150 ppm/104 weeks-intermittent: Kidney/Ureter/Bladder: other changes, changes in kidney weight

TCLo (Inhalation-Rat) 700 ppm/52 weeks-intermittent: Kidney/Ureter/Bladder: other changes, changes in kidney weight

TCLo (Inhalation-Rat) 700 ppm/104 weeks-intermittent: Reproductive: Maternal Effects: uterus, cervix, vagina; Tumorigenic effects: uterine tumors; Related to Chronic Data: changes in uterine weight

TCLo (Inhalation-Rat) 700 ppm/52 weeks-intermittent: Sense Organs and Special Senses (Olfaction): effect, not otherwise specified; Skin and Appendages: primary irritation (after topical exposure)

TCLo (Inhalation-Rat) 700 ppm/13 weeks-intermittent: Blood: changes in other cell count (unspecified)

TCLo (Inhalation-Rat) 150 ppm/52 weeks-intermittent: Liver: changes in liver weight

TCLo (Inhalation-Rat) 700 ppm/3 days-intermittent: Endocrine: estrogenic; Related to Chronic Data: changes in uterine weight

TCLo (Inhalation-Rat) 700 ppm/6 hours/3 days-intermittent: Endocrine: changes in luteinizing hormone; Reproductive: Maternal Effects: oogenesis

TCLo (Inhalation-Rat) 700 ppm/16 hours/3 days-intermittent: Endocrine: estrogenic; Reproductive: Maternal Effects: uterus, cervix, vagina; Related to Chronic Data: changes in uterine weight

TCLo (Inhalation-Rat) 700 ppm/35 days-intermittent: Endocrine: estrogenic; Reproductive: Maternal Effects: oogenesis, ovaries, fallopian tubes

TCLo (Inhalation-Rat) 698 ppm/6 hours/47 days-intermittent: Endocrine: changes in adrenal weight; Nutritional and Gross Metabolic: weight loss or decreased weight gain

TCLo (Inhalation-Rat) 696 ppm/6 hours/6 days-intermittent: Nutritional and Gross Metabolic: weight loss or decreased weight gain

TCLo (Inhalation-Rat) 700 ppm/6 hours/3 days-intermittent: Nutritional and Gross Metabolic: weight loss or decreased weight gain

TCLo (Inhalation-Rat) 500 ppm/6 hours/16 weeks-intermittent: Related to Chronic Data: death

TCLo (Inhalation-Rat) 700 ppm/6 hours/84 days-intermittent: Behavioral: food intake (animal); Nutritional and Gross Metabolic: weight loss or decreased weight gain

TCLo (Inhalation-Rat) 700 ppm/6 hours/1 week-intermittent: Kidney/Ureter/Bladder: changes in kidney weight; Nutritional and Gross Metabolic: weight loss or decreased weight gain

TCLo (Inhalation-Rat) 300 ppm/6 hours/70 days-intermittent: Liver: changes in liver weight

TCLo (Inhalation-Rat) 700 ppm/6 hours/70 days-intermittent: Endocrine: changes in pituitary weight

TCLo (Inhalation-Rat) 500 ppm/6 hours/96 days-intermittent: Liver: changes in liver weight

TCLo (Inhalation-Rat) 700 ppm/6 hours/96 days-intermittent: Lungs, Thorax, or Respiration: other changes

TCLo (Inhalation-Rat) 696 ppm/6 days-intermittent: Related to Chronic Data: changes in ovarian weight

TCLo (Inhalation-Rat) 500 ppm: male 70 day(s) pre-mating female 70 day(s) pre-mating: 3 week(s) post-birth: Reproductive: Effects on Newborn: live birth index (measured after birth)

TCLo (Inhalation-Rat) 301 ppm: female 28 day(s) pre-mating 19 day(s) after conception: Reproductive: Maternal Effects: oogenesis

TCLo (Inhalation-Rat) 503 ppm: female 28 day(s) pre-mating 19 day(s) after conception: Reproductive: Fertility: pre-implantation mortality (e.g. reduction in number of implants per female; total number of implants per corpora lutea); Effects on Embryo or Fetus: fetal death

TCLo (Inhalation-Rat) 698 ppm: female 28 day(s) pre-mating 19 day(s) after conception: Reproductive: Effects on Embryo or Fetus: fetotoxicity (except death, e.g., stunted fetus)

TCLo (Inhalation-Rat) 696 ppm: female 3 day(s) pre-mating 3 day(s) after conception: Reproductive: Maternal Effects: oogenesis; Fertility: pre-implantation mortality (e.g. reduction in number of implants per female; total number of implants per corpora lutea); Effects on Embryo or Fetus: fetal death

TCLo (Inhalation-Rat) 700 ppm: female 1 day(s) pre-mating: Reproductive: Fertility: female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated)

TCLo (Inhalation-Rat) 700 ppm: female 3 day(s) pre-mating 3 day(s) after conception: Reproductive: Maternal Effects: ovaries, fallopian tubes; Effects on Embryo or Fetus: fetotoxicity (except death, e.g., stunted fetus)

TCLo (Inhalation-Rat) 700 ppm: male 70 day(s) pre-mating female 70 day(s) pre-mating lactating female 4 day(s) post-birth: Reproductive: Fertility: pre-implantation mortality (e.g. reduction in number of implants per female; total number of implants per corpora lutea); Specific Developmental Abnormalities: urogenital system

TCLo (Inhalation-Rat) 700 ppm: multi-generations: Reproductive: Effects on Newborn: viability index (e.g., # alive at day 4 per # born alive); Specific Developmental Abnormalities: urogenital system; Effects on Newborn: growth statistics (e.g.%, reduced weight gain)

TCLo (Inhalation-Rat) 700 ppm: multi-generations: Reproductive: Specific Developmental Abnormalities: respiratory system; Effects on Newborn: behavioral

TCLo (Inhalation-Rat) 70 ppm: male 70 day(s) pre-mating female 70 day(s) pre-mating 1-22 day(s) after conception: Reproductive: Fertility: litter size (e.g. # fetuses per litter; measured before birth)

TCLo (Inhalation-Rat) 70 ppm: male 70 day(s) pre-mating: Reproductive: Paternal Effects: spermatogenesis (incl. genetic material, sperm morphology, motility, and count)

TCLo (Inhalation-Rat) 300 ppm: Multi-generations: Reproductive: Specific Developmental Abnormalities: hepatobiliary system, urogenital system

TCLo (Inhalation-Rat) 500 ppm: male 70 day(s) pre-mating female 70 day(s) pre-mating lactating female 4 day(s) post-birth: Reproductive: Effects on Newborn: viability index (e.g., # alive at day 4 per # born alive)

TCLo (Inhalation-Mouse) 697 ppm/6 hours/28 days-intermittent: 697 ppm/6 hours/28 days-intermittent: Liver: changes in liver weight

TCLo (Inhalation-Mouse) 697 ppm/6 hours/28 days-intermittent: Liver: changes in liver weight

TDLo (Oral-Rat) 4200 mg/kg/14 days-intermittent: Liver: changes in liver weight; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: hepatic microsomal mixed oxidase (dealkylation, hydroxylation, etc.)

TDLo (Oral-Mouse) 750 mg/kg/3 days-intermittent: Endocrine: estrogenic; Related to Chronic Data: changes in uterine weight

TDLo (Unreported-Mouse) 100 mg/kg: Endocrine: other changes

TDLo (Unreported-Mouse) 250 mg/kg: Reproductive: Maternal Effects: uterus, cervix, vagina

TDLo (Unreported-Mouse) 1000 mg/kg: Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: other oxidoreductases

SECTION 11 – TOXICOLOGY INFORMATION (Continued)

CARCINOGENIC POTENTIAL: The following table summarizes the carcinogenicity listing for the components of this product. "NO" indicates that the substance is not considered to be or suspected to be a carcinogen by the listed agency, see section 16 for definitions of other ratings.

Chemical	EPA	IARC	NTP	NIOSH	ACGIH	OSHA	Prop 65
Calcium Carbonate (Natural & Synthetic)	No	No	No	No	No	No	No
Carbon Black	No	2B	No	Ca	A3	No	Yes (airborne, unbound particles of respirable size)
Methyl tris(methylethyl ketoximo)	No	No	No	No	No	No	No
Octamethylcyclotetrasloxane	No	No	No	No	No	No	No
Proprietary Silicone Polymer	No	No	No	No	No	No	No

IARC Group 2B: Possibly carcinogenic to humans. NIOSH-Ca: Potential occupational carcinogen, with no further categorization. ACGIH TLV-A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans.

IRRITANCY OF PRODUCT: This product may mildly irritate contaminated tissue, especially if contact is prolonged. Eye irritation may be more pronounced. Inhalation of fumes can cause irritation of the respiratory system.

SENSITIZATION TO THE PRODUCT: This product may cause skin sensitization and allergic reaction in susceptible individuals.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: None known.

REPRODUCTIVE TOXICITY INFORMATION: This product has not been tested for reproductive toxicity. The following information is available for some components.

Mutagenicity: The components of this product are not reported to produce mutagenic effects in humans. Animal or microorganism data for components are as follows: Titanium dioxide was not mutagenic to *Salmonella typhimurium* TA1535, TA1537, TA1538, TA97, TA98 or TA100 or to *Escherichia coli* WP2, either in the presence or absence of an exogenous metabolic system from the livers of uninduced and Aroclor-induced rats, mice and Syrian hamsters. Positive results for Carbon Black have been obtained in somatic cells following live animal inhalation exposure.

Embryotoxicity: The components of this product are not reported to produce embryotoxic effects in humans.

Teratogenicity: The components of this product are not reported not expected to produce teratogenic effects in humans.

Reproductive Toxicity: The components of this product are not reported to produce reproductive toxicity in humans.

BIOLOGICAL EXPOSURES INDICES (BEIs): Currently, the no BEI's have been established for components.

SECTION 12: ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential. A BCF of 12,400 was measured for the Octamethylcyclotetrasiloxane component using fathead minnows which were exposed to a concentration of 0.5 µg/L of Octamethylcyclotetrasiloxane for approximately 28 days. According to a classification scheme, this BCF suggests the potential for bioconcentration in aquatic organisms is very high

ECOTOXICITY: This product has not been tested for aquatic or animal toxicity. The following data is available.

OCTAMETHYLCYCLOTETRASILOXANE:

LC50 (*Oncorhynchus mykiss* Rainbow trout) 14 days = 10 µg/L
LC50 (*Lepomis macrochirus* Bluegill) 96 hours = > 1000 mg/L
LC50 (*Brachydanio rerio* Zebra danio) 96 hours = >500 mg/L

OTHER ADVERSE EFFECTS: This material is not expected to have any ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

SECTION 13: DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: As supplied, this product would not be a hazardous waste as defined by U.S. federal regulation (40 CFR 261) if discarded or disposed. State and local regulations may differ from federal regulations. The generator of the waste is responsible for proper waste determination and management.

U.S. EPA WASTE NUMBER: Not applicable.

SECTION 14: TRANSPORATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: This product is NOT classified as Dangerous Goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is NOT classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is NOT classified as dangerous goods, per the International Air Transport Association.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is NOT classified as dangerous goods, per the International Maritime Organization.

SECTION 15: REGULATORY INFORMATION

U.S. REGULATIONS:

U.S. SARA Reporting Requirements: No components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.
U.S. SARA Hazard Categories (Section 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: Yes; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No
U.S. TSCA Inventory Status: All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
U.S. CERCLA Reportable Quantity (RQ): Not applicable.
U.S. Clean Air Act (CA 112r) Threshold Quantity (TQ): Not applicable.
Other U.S. Federal Regulations: Not applicable.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): No component is on the California Proposition 65 lists.

CANADIAN REGULATIONS:

Canadian DSL/NDSL Inventory Status: The components of this product are listed on the DSL Inventory.
Canadian Environmental Protection Act (CEPA) Priorities Substances Lists: Not applicable.
Canadian WHMIS Regulations: This product is classified as a Controlled Product, Hazard Class D2B (Immediate Acute Toxicity/Irritation & Sensitization) as per the Controlled Product Regulations.

MEXICAN REGULATIONS:

Mexican Workplace Regulations (NOM-018-STPS-2000): This product is not classified as hazardous.

SECTION 16: OTHER INFORMATION

WARNINGS (per ANSI Z129.1): WARNING! COMBUSTIBLE LIQUID. MAY CAUSE EYE AND SKIN IRRITATION. MAY CAUSE SKIN SENSITIZATION AND ALLERGIC REACTION IN SUSCEPTIBLE INDIVIDUALS. CONTAINS COMPOUND THAT MAY CAUSE CHRONIC AQUATIC ADVERSE EFFECTS. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Wash thoroughly after handling. Keep container tightly closed. Use only with adequate ventilation. Keep away from heat and flame. Wear gloves, eye protection, respiratory protection, and appropriate body protection. FIRST-AID: In case of contact, immediately flush skin and eyes with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, do not induce vomiting. Get medical attention. IN CASE OF FIRE: Use water fog, foam, dry chemical, or CO2. IN CASE OF SPILL: Absorb spilled product with polypads or other suitable absorbing material. Place all spill residue in an appropriate container and seal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada.

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with the Global Harmonization Standard.

Classification: Acute Oral Toxicity Category 5, Acute Dermal Toxicity Category 5, Skin Irritation Category 3, Eye Irritation Category 2B, Skin Sensitization Category 1B, Aquatic Acute Toxicity Category 3, Aquatic Chronic Toxicity Category 3

Signal Word: Warning

Hazard Statements: H303 + H313: May be harmful if swallowed or in contact with skin. H316: Causes mild skin irritation. H320: Causes eye irritation. H317: May cause an allergic skin reaction. H412: Harmful to aquatic life with long-lasting effects.

Precautionary Statements:

Prevention: P261: Avoid breathing fume. P264: Wash thoroughly after handling. P272: Contaminated work clothing should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response: P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P333 + P313: If skin irritation or rash occurs: Get medical advice/attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P321: Specific treatment (remove from exposure and treat symptoms). Refer to other portions of precautionary text on this label, SDS or other product information sheets, as appropriate.

Storage: P403: Store in a well-ventilated place.

Disposal: P501: Dispose of contents/containers in accordance with all local, regional, national and international regulations.

Hazard Symbols/Pictogram: GHS08

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information presented in this Material Safety Data Sheet is presented in good faith based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sale.

All materials may present hazards and should be used with caution. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices or applicable federal, state, or local laws or regulations. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

REFERENCES AND DATA SOURCES: Contact the supplier for information.

METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Bridging principles were used to classify this product.

REVISION DETAILS: June 2016: Up-date due to change in formulation.

DATE OF PRINTING June 2, 2016

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these, which are commonly used, include the following:

KEY ACRONYMS:

CHEMTREC: Chemical Transportation Emergency Center, a 24-hour emergency information and/or emergency assistance to emergency responders.

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DFG MAKs: Federal Republic of Germany Maximum Concentration Values in the workplace. Exposure limits are given as TWA (Time-Weighted Average) or PEAK (short-term exposure) values.

DFG MAK Germ Cell Mutagen Categories: 1: Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed humans. **2:** Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed mammals. **3A:** Substances that have been shown to induce genetic damage in germ cells of human of animals, or which produce mutagenic effects in somatic cells of mammals *in vivo* and have been shown to reach the germ cells in an active form. **3B:** Substances that are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell *in vivo*; in exceptional cases, substances for which there are no *in vivo* data, but that are clearly mutagenic in vitro and structurally related to known in vivo mutagens. **4:** Not applicable (Category 4 carcinogenic substances are those with non-genotoxic mechanisms of action. By definition, germ cell mutagens are genotoxic. Therefore, a Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g. purely aneugenic substances] if research results make this seem sensible.) **5:** Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

DFG MAK Pregnancy Risk Group Classification: Group A: A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. **Group B:** Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. **Group C:** There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. **Group D:** Classification in one of the groups A–C is not yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation.

IDLH: Immediately Dangerous to Life and Health. This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.

LOQ: Limit of Quantitation.

NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change.

NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH's Recommended Exposure Limits.

PEL: OSHA's Permissible Exposure Limits. This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL" is placed next to the PEL that was vacated by Court Order.

SKIN: Used when a there is a danger of cutaneous absorption.

STEL: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr TWA is within the TLV-TWA, PEL-TWA or REL-TWA.

TLV: Threshold Limit Value. An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.

TWA: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.

WEEL: Workplace Environmental Exposure Limits from the AIHA.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS:

This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: 0 Minimal Hazard: No significant health risk, irrigation of skin or eyes not anticipated. *Skin Irritation*: Essentially non-irritating. Mechanical irritation may occur. PII or Draize = 0. *Eye Irritation*: Essentially non-irritating, minimal effects clearing in < 24 hours. Mechanical irritation may occur. Draize = 0. *Oral Toxicity LD_{50} Rat*: > 5000 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 2000 mg/kg. *Inhalation Toxicity 4-hrs LC_{50} Rat*: > 20 mg/L. **1** Slight Hazard: Minor reversible injury may occur; may irritate the stomach if swallowed; may defat the skin and exacerbate existing dermatitis. *Skin Irritation*: Slightly or mildly irritating. PII or Draize > 0 < 5. *Eye Irritation*: Slightly to mildly irritating, but reversible within 7 days. Draize > 0 ≤ 25. *Oral Toxicity LD_{50} Rat*: > 500–5000 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 1000–2000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 2–20 mg/L. **2** Moderate Hazard: Temporary or transitory injury may occur; prolonged exposure may affect the CNS. *Skin Irritation*: Moderately irritating; primary irritant; sensitizer. PII or Draize ≥ 5, with no destruction of dermal tissue. *Eye Irritation*: Moderately to severely irritating; reversible corneal opacity; corneal involvement or irritation clearing in 8–21 days. Draize = 26–100, with reversible effects. *Oral Toxicity LD_{50} Rat*: > 50–500 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 200–1000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.5–2 mg/L. **3** Serious Hazard: Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. *Skin Irritation*: Severely irritating and/or corrosive; may cause destruction of dermal tissue, skin burns, and dermal necrosis. PII or Draize > 5–8, with destruction of tissue. *Eye Irritation*: Corrosive, irreversible destruction of ocular tissue; corneal involvement or irritation persisting for more than 21 days. Draize > 80 with effects irreversible in 21 days. *Oral Toxicity LD_{50} Rat*: > 1–50 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 20–200 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.05–0.5 mg/L.**4** Severe Hazard: Life-threatening; major or permanent damage may result from single or repeated exposure; extremely toxic; irreversible injury may result from brief contact. *Skin Irritation*: Not appropriate. Do not rate as a 4, based on skin irritation alone. *Eye Irritation*: Not appropriate. Do not rate as a 4, based on eye irritation alone. *Oral Toxicity LD_{50} Rat*: ≤ 1 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: ≤ 20 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: ≤ 0.05 mg/L.

FLAMMABILITY HAZARD: 0 Minimal Hazard: Materials that will not burn in air when exposure to a temperature of 815.5°C (1500°F) for a period of 5 minutes. **1** Slight Hazard: Materials that must be pre-heated before ignition can occur. Material requires considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur. This usually includes the following: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or above 93.3°C (200°F) (i.e. OSHA Class IIIB); and Most ordinary combustible materials (e.g. wood, paper, etc.). **2** Moderate Hazard: Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres with air. This usually includes the following: Liquids having a flash-point at or above 37.8°C (100°F); Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres; Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp); and Solids and semisolids (e.g. viscous and slow flowing as asphalt) that readily give off flammable vapors.
3 Serious Hazard: Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures, or, unaffected by ambient temperature, are readily ignited under almost all conditions. This usually includes the following: Liquids having a flash point below 22.8°C (73°F) and (73°F) and below 37.8°C (100°F) (i.e. OSHA Class IB and IC); Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air (e.g., dusts of combustible solids, mists or droplets of flammable liquids); and Materials that burn extremely rapidly, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). **4** Severe Hazard: Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and that will burn readily. This usually includes the following: Flammable gases; Flammable cryogenic materials; Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. OSHA Class IA); and Materials that ignite spontaneously when exposed to air at a temperature of 54.4°C (130°F) or below (pyrophoric).

PHYSICAL HAZARD: 0 *Water Reactivity*: Materials that do not react with water. *Organic Peroxides*: Materials that are normally stable, even under fire conditions and will not react with water. *Explosives*: Substances that are Non-Explosive. *Compressed Gases*: No Rating. *Pyrophorics*: No Rating. *Oxidizers*: No 0 rating. *Unstable Reactives*: Substances that will not polymerize, decompose, condense, or self-react.). **1** *Water Reactivity*: Materials that change or decompose upon exposure to moisture. *Organic Peroxides*: Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently. *Explosives*: Division 1.5 & 1.6 explosives. Substances that are very insensitive explosives or that do not have a mass explosion hazard. *Compressed Gases*: Pressure below OSHA definition. *Pyrophorics*: No Rating. *Oxidizers*: Packaging Group III oxidizers; Solids: any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 3:7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. *Unstable Reactives*: Substances that may decompose condense, or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation or explosion hazard. Substances that readily undergo hazardous polymerization in the absence of inhibitors. **2** *Water Reactivity*: Materials that may react violently with water. *Organic Peroxides*: Materials that, in themselves, are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water. *Explosives*: Division 1.4 explosives. Explosive substances where the explosive effects are largely confined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package. *Compressed Gases*: Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group II oxidizers. Solids: any material that, either in concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of a 2:3 potassium bromate/cellulose mixture and the criteria for Packing Group I are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chlorate solution (40%)/cellulose mixture and the criteria for Packing Group I are not met. *Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure, but have a low potential (or low risk) for significant heat generation or explosion. Substances that readily form peroxides upon exposure to air or oxygen at room temperature.**3** *Water Reactivity*: Materials that may form explosive reactions with water. *Organic Peroxides*: Materials that are capable of detonation or explosive reaction, but require a strong initiating source or must be heated under confinement before initiation; or materials that react explosively with water. *Explosives*: Division 1.3 explosives. Explosive substances that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but do not have a mass explosion hazard. *Compressed Gases*: Pressure ≥ 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group I oxidizers. Solids: any material that, in either concentration tested, exhibits a mean burning time less than the mean burning time of a 3:2 potassium bromate/cellulose mixture. Liquids: any material that spontaneously ignites when mixed with cellulose in a 1:1 ratio, or which exhibits a mean pressure rise time less than the pressure rise time of a 1:1 perchloric acid (50%)/cellulose mixture. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a moderate potential (or moderate risk) to cause significant heat generation or explosion. **4** *Water Reactivity*: Materials that react explosively with water without requiring heat or confinement. *Organic Peroxides*: Materials that are readily capable of detonation or explosive decomposition at normal temperature and pressures. *Explosives*: Division 1.1 & 1.2 explosives. Explosive substances that have a mass explosion hazard or have a projection hazard. **):** A mass explosion is one that affects almost the entire load instantaneously. *Compressed Gases*: No Rating. *Pyrophorics*: Add to the definition of Flammability 4. *Oxidizers*: No 4 rating. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion. *Pyrophorics*: Add to the definition of Flammability 4. *Oxidizers*: No 4 rating. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion.

DEFINITIONS OF TERMS (Continued)

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

PHYSICAL HAZARD (continued): 0 (continued): A mass explosion is one that affects almost the entire load instantaneously. *Compressed Gases*: No Rating. *Pyrophorics*: Add to the definition of Flammability 4. *Oxidizers*: No 4 rating. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion. *Pyrophorics*: Add to the definition of Flammability 4. *Oxidizers*: No 4 rating. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion.

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS

HEALTH HAZARD: **0** Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. Gases and vapors with an LC_{50} for acute inhalation toxicity greater than 10,000 ppm. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 200 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 2000 mg/kg. Materials with an LD_{50} for acute oral toxicity greater than 2000 mg/kg. Materials essentially non-irritating to the respiratory tract, eyes, and skin. **1** Materials that, under emergency conditions, can cause significant irritation. Gases and vapors with an LC_{50} for acute inhalation toxicity greater than 5,000 ppm but less than or equal to 10,000 ppm. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 10 mg/L but less than or equal to 200 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 1000 mg/kg but less than or equal to 2000 mg/kg. Materials that slightly to moderately irritate the respiratory tract, eyes and skin. Materials with an LD_{50} for acute oral toxicity greater than 500 mg/kg but less than or equal to 2000 mg/kg. **2** Materials that, under emergency conditions, can cause temporary incapacitation or residual injury. Gases with an LC_{50} for acute inhalation toxicity greater than 3,000 ppm but less than or equal to 5,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 5000 ppm and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 2 mg/L but less than or equal to 10 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 200 mg/kg but less than or equal to 1000 mg/kg. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause severe tissue damage, depending on duration of exposure. Materials that are respiratory irritants. Materials that cause severe, but reversible irritation to the eyes or are lachrymators. Materials that are primary skin irritants or sensitizers. Materials whose LD_{50} for acute oral toxicity is greater than 50 mg/kg but less than or equal to 500 mg/kg. **3** Materials that, under emergency conditions, can cause serious or permanent injury. Gases with an LC_{50} for acute inhalation toxicity greater than 1,000 ppm but less than or equal to 3,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 3000 ppm and that does not meet the criteria for degree of hazard 4. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 0.5 mg/L but less than or equal to 2 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 40 mg/kg but less than or equal to 200 mg/kg. Materials that are corrosive to the respiratory tract. Materials that are corrosive to the eyes or cause irreversible corneal opacity. Materials corrosive to the skin. Cryogenic gases that cause frostbite and irreversible tissue damage. Compressed liquefied gases with boiling points below -55°C (-66.5°F) that cause frostbite and irreversible tissue damage. Materials with an LD_{50} for acute oral toxicity greater than 5 mg/kg but less than or equal to 50 mg/kg. **4** Materials that, under emergency conditions, can be lethal. Gases with an LC_{50} for acute inhalation toxicity less than or equal to 1,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than ten times its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 1000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is less than or equal to 0.5 mg/L. Materials whose LD_{50} for acute dermal toxicity is less than or equal to 40 mg/kg. Materials whose LD_{50} for acute oral toxicity is less than or equal to 5 mg/kg.

FLAMMABILITY HAZARD: **0** Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in according with Annex D of NFPA 704. **1** Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur: Materials that will burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in according with Annex D of NFPA 704. Liquids, solids, and semisolids having a flash point at or above 93.4°C (200°F) (i.e. Class IIIB liquids). Liquids with a flash point greater than 35°C (95°F) that do not sustain combustion when tested using the *Method of Testing for Sustained Combustibility*, per 49 CFR 173, Appendix H or the UN *Recommendations on the Transport of Dangerous Goods, Model Regulations* (current edition) and the related *Manual of Tests and Criteria* (current edition). Liquids with a flash point greater than 35°C (95°F) in a water-miscible solution or dispersion with a water non-combustible liquid/solid content of more than 85% by weight. Liquids that have no fire point when tested by ASTM D 92, *Standard Test Method for Flash and Fire Points by Cleveland Open Cup*, up to the boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change. Combustible pellets with a representative diameter of greater than 2 mm (10 mesh). Most ordinary combustible materials. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **2** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air. Liquids having a flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.) Solid materials in the form of powders or coarse dusts of representative diameter between 420 microns (40 mesh) and 2 mm (10 mesh) that burn rapidly but that generally do not form explosive mixtures with air. Solid materials in fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal, and hemp. Solids and semisolids that readily give off flammable vapors. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **3** Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 37.8°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. Class IB and IC liquids). Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air. Flammable or combustible dusts with representative diameter less than 420 microns (40 mesh). Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **4** Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily. Flammable gases. Flammable cryogenic materials. Any liquid or gaseous materials that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. Class IA liquids). Materials that ignite when exposed to air, Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

INSTABILITY HAZARD: **0** Materials that in themselves are normally stable, even under fire conditions. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) below 0.01 W/mL. Materials that do not exhibit an exotherm at temperatures less than or equal to 500°C (932°F) when tested by differential scanning calorimetry. **1** Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 0.01 W/mL and below 10 W/mL. **2** Materials that readily undergo violent chemical change at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 100W/mL. **3** Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL and below 1000 W/mL. Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures. **4** Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. Materials that are sensitive to localized thermal or mechanical shock at normal temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) of 1000 W/mL or greater.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (**NFPA**). Flash Point: Minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with air near the surface of the liquid or within the test vessel used. Autoignition Temperature: Minimum temperature of a solid, liquid, or gas required to initiate or cause self-sustained combustion in air with no other source of ignition. LEL: Lowest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame. UEL: Highest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. LD_{50}: Lethal Dose (solids & liquids) that kills 50% of the exposed animals. LC_{50}: Lethal Concentration (gases) that kills 50% of the exposed animals. ppm: Concentration expressed in parts of material per million parts of air or water. mg/m_3: Concentration expressed in weight of substance per volume of air. mg/kg: Quantity of material, by weight, administered to a test subject, based on their body weight in kg. TDLo: Lowest dose to cause a symptom. TCLo: Lowest concentration to cause a symptom. TDo, LDLo, and LDo, or TC, TCo, LCLo, and LCo: Lowest dose (or concentration) to cause lethal or toxic effects.

Cancer Information: IARC: International Agency for Research on Cancer. NTP: National Toxicology Program. RTECS: Registry of Toxic Effects of Chemical Substances. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. **Other Information:** BEI: ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

REPRODUCTIVE INFORMATION:

A mutagen is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical that causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance that interferes in any way with the reproductive process.

ECOLOGICAL INFORMATION:

EC: Effect concentration in water. BCF: Bioconcentration Factor, which is used to determine if a substance will concentrate in life forms that consume contaminated plant or animal matter. TLm: Median threshold limit. log K_{OW} or log K_{OC}: Coefficient of Oil/Water Distribution is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION:

This section explains the impact of various laws and regulations on the material.

U.S.:

EPA: U.S. Environmental Protection Agency. ACGIH: American Conference of Governmental Industrial Hygienists, a professional association that establishes exposure limits. OSHA: U.S. Occupational Safety and Health Administration. NIOSH: National Institute of Occupational Safety and Health, which is the research arm of OSHA. DOT: U.S. Department of Transportation. TC: Transport Canada. SARA: Superfund Amendments and Reauthorization Act. TSCA: U.S. Toxic Substance Control Act. CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act. Marine Pollutant status according to the DOT; CERCLA or Superfund; and various state regulations. This section also includes information on the precautionary warnings that appear on the material's package label.

CANADA:

WHMIS: Canadian Workplace Hazardous Materials Information System. TC: Transport Canada. DSL/NDSL: Canadian Domestic/Non-Domestic Substances List.

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.

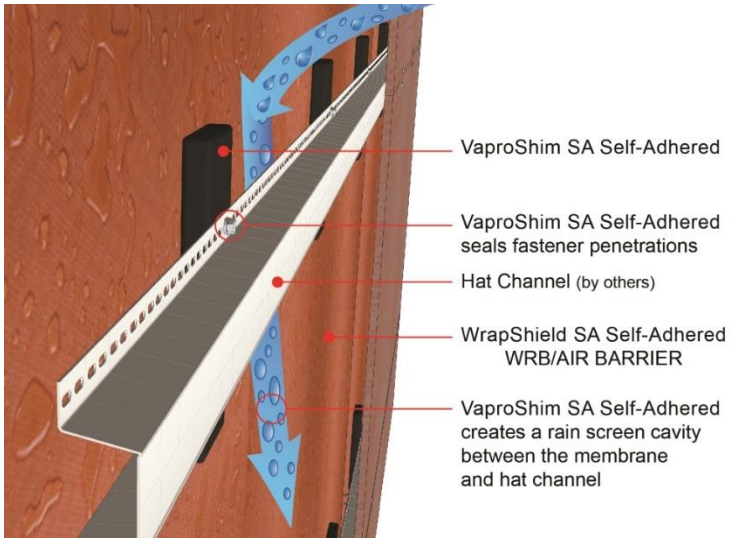
IMPORTANT: All cladding fasteners and attachment methods, including fasteners through the VaproShim SA™ Self-Adhered need to be reviewed by structural engineer of record.

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.

WallShield® IT integrated tape

COMPLETE WRB SYSTEM

VaproShield®

Breathable Membrane Systems for Roofs & Walls

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