Senergy®

BUILDING TRUST

PRODUCT DATA SHEET

Senershield-VB

A one-component fluid-applied air/water-resistive barrier that can also function as a Class I vapor retarder

COLOR
Reddish Brown

PACKAGING
60 lbs per 5-gallon pail (27.2 kg per 19-liter pail)

COVERAGE PER PAIL AT 26 MILS WFT*

ASTM C1177 Type Sheathing
290 ft^2 (27 m^2)

Cement Board
290 ft^2 (27 m^2)

Plywood
265 ft^2 (24 m^2)

Oriented Strand Board (OSB)
265 ft^2 (24 m^2)

Concrete Masonry Units (CMU)
80-150 ft^2 (7-14 m^2 varies with CMU porosity)

Poured Concrete
290 ft^2 (27 m^2)

Embed Sheathing Fabric

SikaWall-75 Sheathing Fabric 4
630 ft (192 m)

SikaWall-75 Sheathing Fabric 6
420 ft (128 m)

SikaWall-75 Sheathing Fabric 9
280 ft (85 m)

* Roll or spray / backroll for optimum coverage rate. Other application methods may provide less coverage. Actual results may vary depending on surface porosity, roughness, moisture uptakes, or other factors.

VOC
0.09 lbs/gal (or 11g/l) less water and exempt solvents.

SHELF LIFE
Two (2) years, properly stored in original container.

DESCRIPTION
Senershield®-VB is a one-component fluid-applied, vertical above grade air/water-resistive barrier with built in low temperature application properties that can also function as a Class I vapor retarder. This resilient waterproof membrane can be applied directly to approved, above-grade wall substrates by sprayer, roller or brush. It provides excellent secondary moisture protection behind most wall claddings including brick, siding, metal panels, EIFS and stucco.*

* A slipsheet is required for stucco claddings

** Based on 2012 IBC definitions

USES
For use over the following exterior wall substrates:
Poured concrete/unit masonry; ASTM C1177 type sheathings, including DensGlass™ or DensElement exterior sheathing (sheathing only), eXP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing, Weather Defense™ Platinum sheathing, GreenGlass® sheathing; cement-boards (ASTM C1325 Type A Exterior) including PermaBase™ cement-board; Untreated Exposure I or exterior plywood sheathing (grade C-D or better), Untreated Exposure I OSB, Zip Sheathing (sheathing only); Fire Treated wood sheathing: Pyro-Guard® and Dricon® plywood and FlameBlock® OSB; gypsum sheathing (ASTM C79/ASTM C1396).
Do not use Senershield-VB for below-grade applications or on surfaces subject to water immersion.

ADVANTAGES
Meets ASTM E2357 Air Leakage of Building Assemblies requirements specified by the ABAA and listed in ASHRAE 189.1.
Meets requirements of ICC-ES AC 148; can be used as a flexible flashing in rough openings or through-wall penetrations.
Self sealing performance meets ASTM D1970 nail sealability requirements with and without Sheathing Fabric.
Liquid-applied, continuously-bonded membrane; eliminates seams, lap joints and staples; transmits wind loads to the substrate.
One component, easy to apply formulation that meets low VOC requirements in all 50 states.
Nonflammable as applied.
No primer required; single pass application on most substrates.
Asphalt and plasticizer-free; easy cleanup, will not dry out or leach plasticizer after application.
Allows for flexible construction scheduling with an 180 day outdoor exposure rating.

TEST RESULTS

TEST	METHOD	CRITERIA	RESULT
VOC content	ASTM D3960 (based in part on EPS method 24)	Report value	0.09 lbs/gal or 11g/l less water and exempt solvents
Air Leakage of Air Barrier Assemblies	ASTM E2357	0.04 cfm/ft^2 @ 1.57 psf (0.2 l/s.m^2 @ 75 Pa)	0.0011 cfm/ft^2 @ 1.57 psf (0.0055 l/s.m^2 @ 75 Pa) positive / post conditioning 0.0000 cfm/ft^2 @ 1.57 psf (0.0001 l/s.m^2 @ 75 Pa) negative / post conditioning
Air Permeance of Building Materials	ASTM E2178	0.004 cfm/ft^2 @ 1.57 psf (0.02 l/s.m^2 @ 75 Pa)	0.0000 cfm/ft^2 @ 1.57 psf (0.0001 l/s.m^2 @ 75 Pa)
Rate of Air Leakage	ASTM E283	Report value	0.0037 cfm/ft^2 @ 1.57 psf (0.0185 l/s·m^2 @ 75 Pa)
Water Vapor Transmission	ASTM E96 Method A	Report value	0.09 Perms (grains/Hr. in Hg. ft^2) @ 26 mils wet film thickness
Pull-Off Strength of Coatings	ASTM D4541	Min.15.9 psi (110 kPa) or substrate failure	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood; pvc and galvanized flashing.
Nail Sealability (without Sheathing Fabric)	ASTM D1970	No water penetration at galvanized roofing nail penetration under 5" (127 mm) head of water after 3 days at 40°F (4°C).	Pass
Surface Burning	ASTM E84	Flame Spread < 25 Smoke Development < 450	Meets Class A: Flame spread <25 Smoke developed <450
Radiant Heat Multi-Story Tests	NFPA 268, NFPA 285	No increase in fire hazard.	Pass using many wall designs; including Senergy EIFS cladding with 12" EPS insulation. Reference technical bulletin NFPA 285 Compliant Wall Systems and Assemblies.
Water-resistive barrier coatings used under EIFS	ASTM E2570		Pass (Meets all criteria in the standard)
Compound Stability (Elevated Temperature)	ASTM D5147 Section 15		No flowing, dripping, or drop formation up to 350°F (177°C).
Fire Resistance	ASTM E119/UL 263	Maintain fire resistance of existing rated assembly.	Will not add or detract from the rating of a fire resistive wall assembly.
Drainage Efficiency	ASTM E 2273	90% Minimum	99%
% Solids	Lab method	Report value	74%

ICC-ES AC 212 Acceptance Criteria for Water-Resistive Coatings used as Water-Resistive Barriers over Exterior Sheathing

TEST	METHOD	CRITERIA	RESULTS
Sequential Testing: **1. Structural** **2. Racking** **3. Restrained Environmental Conditioning** **4. Water Penetration**	 1. ASTM E 1233 Procedure A 2. ASTM E 72 3. ICC-ES AC-212 4. ASTM E 331	 No cracking at joints or interface of flashing No water penetration after 15 min @ 2.86 psf (137 Pa)	 Pass - Tested over OSB and gypsum sheathing. No water penetration after 90 min @ 6.24 psf (299 Pa).
Sequential Testing - Weathering **1. UV Light Exposure** **2. Accelerated Aging** **3. Hydrostatic Pressure Test**	 1. ICC-ES AC-212 2. ICC-ES AC-212 3. AATCC 127-1985	 No cracking or bond failure to substrate No water penetration after 21.7 in (550 mm) water for 5 hours	 Pass
Freeze-Thaw	AC 212 & ASTM E 2485 (Method B)	No deleterious effects (cracking, crazing, erosion etc.) viewed at 5x magnification, after 10 cycles each consisting of: 120°F (49°C) air temp for 8 hours, total immersion in water for 8 hours, exposure to -20°F (-28.9°C) for 16 hours	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood.
Water Resistance	ASTM D2247	No deleterious effects (cracking, crazing, erosion etc.) after 14-day exposure	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood.
Tensile Bond	ASTM C 297	Minimum 15 psi (103 kPa)	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood, CMU; pvc and galvanized flashing.
Tensile Bond (after freeze-thaw)	ASTM C 297	Minimum 15 psi (103 kPa) avg; no failure after 10 cycles freeze-thaw	Pass (Tested over various substrates)

ICC-ES AC 148 Acceptance Criteria for Flexible Flashing Materials

TEST	METHOD	CRITERIA	RESULTS
Sequential Testing - Weathering **1. UV Light Exposure** **2. Accelerated Aging** **3.Hydrostatic Pressure Test**	 1. ICC-ES AC 148 2. ICC-ES AC 148 3. AATCC 127-1985	 No cracking or bond failure to substrate No water penetration after 21.7 in (550 mm) water for 5 hours	 Pass
Peel Adhesion	ASTM D 3330 Method F	Min 1.5 lbs/in (0.26 N/mm) After UV Exposure After Accelerated Aging After Elevated Temperature Exposure After Water Immersion	Pass - tested over ASTM C1177 glass-mat sheathing, OSB, plywood, PVC and uncoated aluminum.
Nail Sealability after Thermal Cycling	ASTM D 1970 (Modified), AAMA 711	No water penetration at galvanized roofing nail penetration under 1.2" (31 mm) head of water after 24 hours at 40°F (4°C)	Pass
Tensile Strength after UV Exposure	ASTM D 5034, AAMA 711	Minimum 20 lbs./in (3.5 N/mm)	Pass
Cold Temperature Pliability	ASTM D 1970, AAMA 711	No cracking after bending around a 1" (25 mm) mandrel after 2-hour exposure to 0°F (-18°C)	Pass
Resistance to Peeling	AAMA 711	No signs of distress or failure after 24 hours of exposure at room temperature, 122°F (50°C), 149°F (65°C), 176°F (80°C)	Pass

PRODUCT CONSIDERATIONS AND JOB CONDITIONS

- Expect extended dry time for cold temperature application less than 40°F (4°C) down to 25°F (-4°C). Final air/water-resistive properties and film durability rely on temperatures rising above freezing (32°F/0°C).
- Walls shall be capped to prevent moisture and precipitation from entering wall during construction.
- Dry/cure times of adhered EPS insulation board installed over Senershield-VB may be prolonged, particularly in cool and/or damp weather. Non-cementitious adhesives are not recommended for EPS insulation board attachment to Senershield-VB. Proper application is the responsibility of the user.
- Senershield-VB may be sprayed to a 26-mil thickness in one wet application. Backrolling with a loaded roller may be needed to produce a pinhole-free film. For roller application, two coats of 13-mil WFT each are required.
- Punched studs in rough openings must be treated with Sika-85 Flash Seal NP flashing membrane.
- Ensure all fasteners are spotted with Senershield-VB or SikaWall-80 MaxFlash.
- Prior to application of claddings, visually inspect the Senershield-VB for voids, pinholes, surface deficiencies, etc. Repair deficiencies and areas that are not intact. Apply additional Senershield-VB as necessary, such that the barrier is free of voids, pinholes, etc. All sheathing joints, terminations, inside and outside corners must be reinforced with SikaWall-75 Sheathing Fabric embedded in Senershield-VB, MaxFlash or Flash Seal NP.
- Treat expansion joints with Flash Seal NP flashing membrane, provide sufficient slack in Flash Seal NP at joint to allow for movement.

SURFACE PREPARATION

An acceptable substrate (see list above) should be used and installed per substrate manufacturer's instructions and local code requirements. Substrate shall be dry, clean, sound and free of release agents, paint/coatings, other residue or other deleterious conditions before application of cladding. Verify substrate is flat, free of fins or planar irregularities greater than ¼" in 10' (6.4 mm in 3 m). Unsatisfactory conditions shall be reported to the general contractor and corrected before application of Senershield-VB and claddings.

EQUIPMENT

- For roller application, use a ¾" (20mm) nap roller. Prewet the synthetic roller pad with water and spin out the excess. The prewetting only needs to be done once, at the start of application.
- For spraying application instructions and equipment reference Spray Application Technical Bulletin.

MIXING

1. Use directly from original packaging or prepare in a container that is clean and free of foreign substances. Do not use a container which has contained or been cleaned with a petroleum-based product
2. Mix Senershield-VB with a clean, rustfree paddle and drill until thoroughly blended. Dilution of Senershield-VB is not recommended.
3. Additives are not permitted.
4. Close container when not in use.
5. Clean tools and equipment with water immediately after use. Dried material can only be removed mechanically.

APPLICATION

FLASHING ROUGH OPENINGS

Using MaxFlash

1. Apply a bead of MaxFlash in each corner of the rough opening, ensuring that corners are fully sealed. Where wood bucks are used, apply a bead of MaxFlash into gaps between bucks and between the buck and building structure.
2. Apply additional MaxFlash in a zigzag pattern onto head, sill, jambs and exterior substrate. Spread MaxFlash evenly across the rough opening to form a uniform, continuous, void and pinhole-free membrane with a 12-20 mil thickness. Extend MaxFlash at a minimum 4" onto the exterior wall, maintaining 12-20 mil thickness.
3. Allow MaxFlash to skin before applying Senershield-VB to sheathing. Lap the air/water-resistive barrier a minimum of 2" onto MaxFlash, creating a continuous, monolithic air/water-resistive barrier membrane.
4. Allow MaxFlash to cure prior to the installation of windows, doors and other wall assemblies.

USING SHEATHING FABRIC

1. Cut SikaWall-75 Sheathing Fabric to desired size. Apply a generous amount of mixed Senershield-VB receiving coat across rough opening and out onto the substrate. Immediately embed Sheathing Fabric, ensure complete saturation. An additional coat of Senershield-VB may be necessary to ensure a complete, void and pinhole free membrane.
2. Extend Sheathing Fabric a minimum 2" onto the exterior wall. Reference Senershield-VB published details for step by step application details.

SHEATHING JOINT REINFORCEMENT

Using MaxFlash

Apply a thick bead of MaxFlash to sheathing joints, inside and outside corners as well as knot holes and check cracks that may exist in plywood or OSB. Spread evenly a minimum of 1" beyond the joint on either side, maintaining 20-mils across the sheathing joint. Allow MaxFlash to skin before applying Senershield-VB to sheathing. See the MaxFlash product bulletin for coverages and additional product highlights.

Note: MaxFlash can be used to treat sheathing joints up to ½" wide, not for use in expansion joints.

Using Sheathing Fabric

1. Precoat sheathing joints, inside and outside corners as well as knot holes and check cracks that may exist in plywood or OSB with mixed Senershield-VB.
2. Immediately place and center Sheathing Fabric over wet Senershield-VB. Ensure Sheathing Fabric extends evenly on both sides of the sheathing joint. Completely saturate Sheathing Fabric with Senershield-VB.
3. Lap Sheathing Fabric 2½" (63.5 mm) minimum at intersections.
4. If using roller or brush application, allow to dry to the touch before applying Senershield-VB to entire wall surface. If spraying, "wet on wet" application is acceptable.
   Note: Sheathing Fabric can be used to fill sheathing joints up to ¼" wide, not for use in expansion joints.

SENERSHIELD-VB APPLICATION OVER ACCEPTABLE SUBSTRATES

Apply with 3/4" (20 mm) nap roller a consistent, minimum 13 wet mil thickness. Prior to application of the second coat, visually inspect to assure sheathing surface is blister free and coating is free of voids and pinholes. Repair if needed and then apply a second coat after the initial coating is sufficiently dry.

Note: A minimum of two (2) 13-mil wet coats of Senershield-VB are required.

Applying with spray equipment, Senershield-VB may be sprayed to a 26-mil thickness in one wet application. Backrolling with a loaded roller may be needed to produce a pinhole-free film.

Note: Refer to Spray Application technical bulletin for spray application equipment and application instructions. Verify thickness using a wet film mil gauge.

COLD TEMPERATURE APPLICATION LESS THAN 40°F (4°C) DOWN TO 25°F (-4°C)

- Precondition material to a minimum 65°F (18°C).
- Substrate and ambient temperature must be 25°F (-4°C) and rising. Do not apply if temperature below 25°F (-4°C) is expected at any time during the application or drying period. Substrate surface must be frost free and remain dry.
- Install material in dry weather and protect from rain and temperatures below 25°F (-4°C) for a minimum of 24 hours and until dry.

DRYING TIME

40°F (4°C) and rising: allow to dry completely, typically 2-10 hours before proceeding with cladding installation. 40°F (4°C) down to 25°F (-4°C): when applied at a 13-mil wet film thickness, typically dry in approximately 12 hours at 32°F (0°C) and 50% relative humidity (RH). When spray applied in a single pass at a 26-mil thickness, typically dry in approximately 18 hours at 32°F (0°C) and 50% (RH). Allow to dry completely prior to proceeding with cladding installation.

Note: Actual drying time will vary depending on ambient and substrate temperature, humidity and the ability of the substrate to absorb water. Final air/water-resistive properties and film durability rely on temperatures rising above freezing (32°F/0°C)

SHIPPING & STORAGE

- Protect materials during transportation to avoid physical damage. Store in a cool, dry place protected from freezing, extreme heat and direct sun. Store at no less than 40°F (4°C) and below 120°F (49°C). Protect from extreme heat and direct sun.
- Do not stack pallets.

LIMITATIONS

- Limit the weather exposure of Senershield-VB to a maximum of 180 days. If exposure limits are exceeded, clean and recoat with Senershield-VB.
- Do not use on damp surfaces, below-grade applications or on surfaces subject to water immersion.
- Do not apply in ambient temperatures below 25°F (-4°C) or onto substrates below 25°F (-4°C). Do not apply in ambient temperature above 100°F (38°C) or surface temperature above 120°F (49°C).
- Ensure wood sheathings and lumber, including fire and pressure treated, are dry throughout the thickness of the material and free of any bond inhibiting materials prior to application of Senershield-VB.
- Senershield-VB is designed as a positive side water barrier and does not function as a negative side barrier product.

TECHNICAL SUPPORT

Consult Sika Facades Technical Services Department at **+1 (800) 589-1336** for specific recommendations concerning all other applications. Consult the Sika Facades website at **usa.sika.com/senergy**, for additional information about products and systems and for updated literature.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting **usa.sika.com/senergy,** e-mailing your request to **mbsbscst@mbcc-group.com** or calling **+1 (800) 433- 9517.** Use only as directed.

IN CASE OF EMERGENCY: Call CHEMTEL +1 (800) 255-3924 or if outside the US or Canada, +1 (813) 248-0585.

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