

Senersshield-RS

Vapor Permeable Air/Water-Resistive Barrier Membrane

COLOR

Light gray

PACKAGING

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

4" Sheathing Fabric: 101.5 mm x 54.8 m
(4" x 180 ft) roll

6" Sheathing Fabric: 152.4 mm x 54.8 m
(6" x 180 ft) roll

9" Sheathing Fabric: 228.5 mm x 54.8 m
(9" x 180 ft) roll

COVERAGE*

Substrate

ASTM C1177 Type Sheathing

48 m² (525 ft²) per pail

Cement Board

53 m² (575 ft²) per pail

Plywood*

27 m² (295 ft²) per pail

Oriented Strand Board (OSB)*

27 m² (295 ft²) per pail

Concrete Masonry Units (CMU)*

Standard Weight 24 m² (265 ft²) per pail

Medium Weight 17 m² (180 ft²) per pail

Light Weight 12 m² (125 ft²) per pail

Poured Concrete

46 m² (575 ft²) per pail

Embed Sheathing Fabric

4" Sheathing Fabric

192 m (630 ft) per pail

6" Sheathing Fabric

128 m (420 ft) per pail

9" Sheathing Fabric

85 m (280 ft) per pail

Note: Coverage for C1177 sheathing, cement board, poured concrete is at 12 mils WFT; for plywood OSB and CMU are at 24 mils WFT.

* 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, type of OSB or other factors.



DESCRIPTION

Senersshield-RS is a one-component, fluid-applied vapor permeable air/water-resistive barrier. This waterproof, resilient coating may be spray-, roller-, or brush-applied directly to approved above grade wall substrates. It provides excellent secondary moisture protection behind most wall claddings including EIFS, stucco, brick, siding and metal panels. A slipsheet is required for stucco claddings.

USES

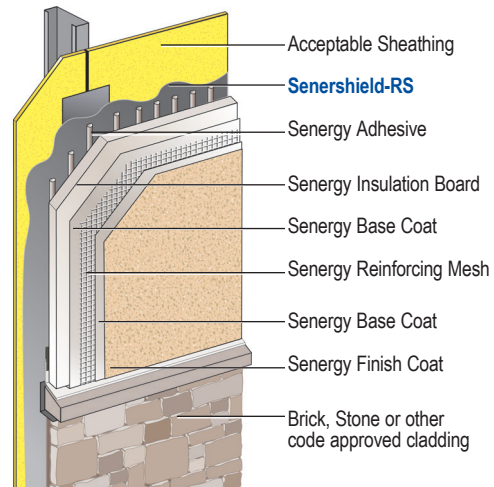
For use over the following exterior wall substrates:

Poured concrete/unit masonry, ASTM C1177 type sheathings, including DensGlass™ or DensElement exterior sheathing, eXP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing, Weather Defense™ Platinum sheathing, GreenGlass® sheathing, PermaBase™ cement-board by National

Gypsum and other cement-boards (ASTM C1325 Type A Exterior), untreated Exposure I or exterior plywood sheathing (grade C-D or better), untreated Exposure I OSB, Fire Treated wood sheathing; Pyro-Guard® and Dricon® plywood and FlameBlock® OSB, gypsum sheathing (ASTM C79/ASTM C1396).

Do not use Senersshield-RS for below-grade applications or on surfaces subject to water immersion.

FEATURES	BENEFITS
Can be used with most code-compliant claddings	One continuous air/water-resistive barrier for buildings with multiple claddings
Meets ASTM D1970 nail sealability requirements with and without Sheathing Fabric	Self sealing performance
One component, low-VOC formulation	Easy to apply, meets VOC requirements in all 50 states
Nonflammable as applied	Workplace safety
Mineral oil and plasticizer free	Will not dry out or crack due to loss of oil / plasticizer over time
Water based	Cleans up with water; solvents and citrus based cleaners not required
Tough, abrasion resistant	Rugged membrane resists damage after installation
Low temperature performance with LT Additive	Extends minimum application temperature to -4 °C (25 °F)
180 day outdoor exposure rating (30 days if used as part of an adhesively fastened wall system)	Flexible construction scheduling



Multi-clad wall assembly using Senershield-RS

TEST RESULTS

TEST	RESULT
Air Leakage of Air Barrier Assemblies ASTM E 2357	0.0007 l/s.m ² (0.0001 cfm/ft ²) @ 75 Pa (1.57 psf) positive / post conditioning 0.0014 l/s.m ² (0.0003 cfm/ft ²) @ 75 Pa (1.57 psf) negative / post conditioning
Air Permeance of Building Materials ASTM E 2178	0.0049 l/s.m ² @ 75 Pa (0.00098 cfm/ft ² @ 1.57 psf)
Rate of Air Leakage ASTM E 283	0.0185 l/s.m ² @ 75 Pa (0.0037 cfm/ft ² @ 1.57 psf)
Water Vapor Transmission ASTM E 96 Method B	18 Perms (grains/Hr. in Hg. ft ²) @ 12 mils wet film thickness 14 Perms (grains/Hr. in Hg. ft ²) @ 20 mils wet film thickness
Pull-Off Strength of Coatings ASTM D 4541	Pass - Min. 110 kPa (15.9 psi) or substrate failure (Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood; PVC and galvanized flashing)
Nail Sealability (without Sheathing Fabric) ASTM D 1970	Pass - No water penetration at galvanized roofing nail penetration under 127 mm (5") head of water after 3 days at 4 °C (40 °F)
Surface Burning ASTM E 84	Class A flame spread <25 Class A smoke developed index <450
Radiant Heat Multi-Story Tests NFPA 268, NFPA 285	Pass using many wall designs; including Senergy EIFS cladding with 12" EPS insulation Reference technical bulletin <i>NFPA 285 Compliant Wall Systems and Assemblies</i>
Water-Resistive Barriers under EIFS ASTM E 2570	Pass (Meets all criteria in the standard)
Compound Stability (Elevated Temperature) ASTM D5147 Section 15	No flowing, dripping, or drop formation up to 177 °C (350 °F)
Fire Resistance ASTM E119/UL 263	Will not add or detract from the rating of a fire resistive wall assembly
Drainage Efficiency ASTM E 2273	99%

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

Sequential Testing - Structural, Racking, Restrained Environmental Conditioning and Water Penetration

1. Structural: ASTM E 1233 Procedure A	No cracking at joints or interface of flashing
2. Racking: ASTM E 72	No cracking at joints or interface of flashing
3. Restrained Environmental Conditioning: ICC-ES AC 212	No cracking at joints or interface of flashing
4. Water Penetration : ASTM E 331	No water penetration after 90 min @ 299 Pa (6.24 psf) Tested over OSB and gypsum sheathing

Sequential Testing - Weathering

1. UV Light Exposure: ICC-ES AC 212	No cracking or bond failure to substrate
2. Accelerated Aging: ICC-ES AC 212	No cracking or bond failure to substrate
3. Hydrostatic Pressure Test: AATCC 127-1985	No water penetration under 55cm (21.7") head of water for 5 hours

Freeze-Thaw ASTM E 2485 (Method B)	No sign of deleterious effects after 10 cycles (Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood)
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Water Resistance ASTM D 2247	No sign of deleterious effects after 14 day exposure (Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood)
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Tensile Bond ASTM C 297	>103 kPa (15 psi) Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood, CMU; PVC and galvanized flashing
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Tensile Bond (before & after freeze-thaw) ASTM C 297	>103 kPa (15 psi) avg; no failure of the lamina after 10 cycles freeze-thaw (Tested over various substrates)
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ICC-ES AC 148 Acceptance Criteria for Flexible Flashing Materials

Sequential Testing - Weathering

1. UV Light Exposure: ICC-ES AC 148	No cracking or bond failure to substrate
2. Accelerated Aging: ICC-ES AC 148	No cracking or bond failure to substrate
3. Hydrostatic Pressure Test: AATCC 127-1985	No water penetration under 55cm (21.7") head of water for 5 hours

Peel Adhesion ASTM D 3330 Method F	Tested over ASTM C1177 glass-mat sheathing, OSB, plywood, PVC and uncoated aluminum
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After UV Exposure	Pass
After Accelerated Aging	Pass
After Elevated Temperature Exposure	Pass
After Water Immersion	Pass

Nail Sealability after Thermal Cycling ASTM D 1970 (Modified), AAMA 711	Pass
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Tensile Strength after UV Exposure ASTM D 5034, AAMA 711	All samples meet the minimum requirement of 3.5 N/mm (20 lbs/in)
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Cold Temperature Pliability ASTM D 1970, AAMA 711	No cracking after bending around a 25 mm (1") mandrel after 2 hour exposure to -18 °C (0 °F)
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Resistance to Peeling AAMA 711	No signs of distress or failure after 24 hours of exposure at room temperature, 50 °C (122 °F), 65 °C (149 °F), 80 °C (176 °F)
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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-RS with a clean, rust-free paddle and drill until thoroughly blended. Dilution of Senershield-RS is not recommended.
3. Additives, other than LT Additive, 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

JOB CONDITIONS

To apply to Senershield-RS at ambient temperatures below 4 °C (40 °F) but greater than -4 °C (25 °F), thoroughly blend 1 full quart of LT Additive with one full 5-gallon pail of Senershield-RS. When using LT Additive, extended drying time can be expected. Do not apply Senershield-RS to frozen or frost-laden substrates.

Do not apply Senershield-RS in ambient temperatures below 4 °C (40 °F) or onto substrates below 4 °C (40 °F) unless LT Additive is used.

Walls shall be capped to prevent moisture and precipitation from entering wall during construction.

Limit the weather exposure of Senershield-RS to a maximum of 180 days. When Senershield-RS is applied under adhesively attached Senerflex systems, the insulation board must be applied within 30 days of the Senershield-RS. If exposure limits are exceeded, clean and recoat with Senershield-RS. Verify surfaces are free of dirt, contaminants, or other deleterious conditions before application of cladding. Report and correct any such conditions prior to cladding application. Dry/cure times of adhesively applied EPS insulation board installed over Senershield-RS may be prolonged, particularly in cool and/or damp weather. Non-cementitious adhesives are not recommended for EPS insulation board attachment to Senershield-RS. Proper application is the responsibility of the user.

SURFACE PREPARATION

Substrate shall be dry, clean, sound and free of release agents, paint or other residue or coatings. Verify substrate is flat, free of fins or planar irregularities greater than 6.4 mm in 3 m (¼" in 10'). Unsatisfactory conditions shall be reported to the general contractor and corrected before application of Senershield-RS.

EQUIPMENT

Airless spray equipment capable of spraying a minimum of 1 gallon per minute with a minimum size reversible tip of 0.019 is required. Airless equipment capable of greater deliveries can use larger tips. Tip sizes of 0.021 to 0.025 are recommended. Tip sizes greater than 0.025 provide too much material and effect the overall consumption of the material affecting the coverage rates. If pump filters are used, minimum size of filter recommended is a 60 mesh filter.

When spraying over plywood and OSB, back rolling is recommended to completely encapsulate and create a pinhole free application.

For roller application, use a 13 mm (½") nap roller.

PROCEDURE

1. Substrate shall be of a type acceptable by Master Builders Solutions and shall be installed per substrate manufacturer's instructions and local code requirements.
2. Rough openings and sheathing joints can be treated with MaxFlash Liquid Flashing Membrane or Sheathing Fabric saturated with Senershield-RS. **See following sections for additional steps.**

USING MAXFLASH

FLASHING ROUGH OPENINGS:

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 membrane

minimum 4 inches onto the exterior wall, maintaining 12–20 mil thickness.

3. Extend MaxFlash at a minimum 4 inches onto the exterior wall, maintaining 12–20 mil thickness.
4. Allow MaxFlash to skin before applying Senershield-RS to sheathing. Lap the air/water-resistant barrier a minimum of 2 inches onto MaxFlash, creating a continuous, monolithic air/water-resistant barrier membrane.
5. Allow MaxFlash to cure prior to the installation of windows, doors and other wall assemblies.

SHEATHING JOINTS:

MAXFLASH CAN BE USED TO FILL SHEATHING JOINTS UP TO ½" WIDE.

1. Apply a thick bead of MaxFlash to sheathing joints.
2. Spread MaxFlash evenly a minimum of 1-inch beyond the joint on either side. Apply 20 mils of MaxFlash across the sheathing joint.
3. Spot fastener heads with MaxFlash or Senershield-RS.
4. Allow MaxFlash to skin before applying Senershield-RS to sheathing.

See the MaxFlash product bulletin for coverages and additional product highlights.

- OR -

USING SHEATHING FABRIC

FLASHING ROUGH OPENINGS:

Wrap openings with Sheathing Fabric. Apply a generous amount of mixed Senershield-RS to all surfaces and immediately embed Sheathing Fabric, completely saturating the Sheathing Fabric. If necessary, apply a second coat of Senershield-RS to ensure a complete, void-free membrane.

SHEATHING JOINTS:

1. Spot all fasteners and precoat sheathing joints, terminations, inside and outside corners with mixed Senershield-RS using a 101 mm (4") wide by 13 mm (½") nap roller, brush or spray.
- Immediately place and center Sheathing Fabric over wet Senershield-RS at all sheathing joints, terminations, inside and outside corners, as well as knot holes and check cracks that may exist in plywood or OSB. Ensure Sheathing Fabric extends evenly on both sides of the sheathing joint. Completely saturate Sheathing Fabric with Senershield-RS.

- Lap Sheathing Fabric 63.5 mm (2½") minimum at intersections.
- If using roller or brush application, allow to dry to the touch before applying Senershield-RS to entire wall surface. If spraying, "wet on wet" application is acceptable.
 - Apply Senershield-RS to concrete, DensGlass™ or DensElement exterior sheathing, eXP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing, Weather Defense™ Platinum sheathing, GreenGlass® sheathing, PermaBase™ cement-board by National Gypsum and other cement-boards (ASTM C1325 Type A Exterior) and gypsum sheathing (ASTM C79/ASTM C1396) with airless spray equipment by roller, or brush to a consistent, minimum 12 wet mil thickness that is free of voids and pin holes. If rolling, a fully loaded roller pad is required to obtain a consistent, minimum 12 wet mil thickness.

Note: Refer to Spray Application technical bulletin for spray application equipment and application instructions.

- Apply Senershield-RS to plywood, OSB or CMU substrate(s) with airless spray equipment or 13 mm (½") nap roller a consistent, minimum 12 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) 12 mil wet coats of Senershield-RS is required over OSB, plywood and CMU. Senershield-RS may be sprayed to a 20-mil thickness over OSB and plywood in one wet application. Backrolling may be needed to produce a pinhole-free film.

- When spraying keep the spray gun as close to 90° angle to the substrate as possible. Overlap spray patterns to ensure uniform coverage, free from pinholes.
- Verify thickness using a wet film mil gauge.

DRYING TIME

Allow to dry completely, typically 2 to 10 hours, before proceeding with EIFS or other cladding installation. Protect from rain and from temperatures less than 4 °C (40 °F) for 24 hours.

FOR BEST PERFORMANCE

Prior to application of EPS insulation boards for EIFS or alternative claddings, visually inspect the Senershield-RS for voids, pinholes, surface deficiencies, etc. Repair deficiencies and areas that are not intact. Apply additional Senershield-RS as necessary such that Senershield-RS is free of voids, pinholes, etc. All sheathing joints, terminations, inside and outside corners must be reinforced with 4", 6" or 9" Sheathing Fabric embedded in Senershield-RS; WS Flash 4 or 9; or MaxFlash. Reference *Air/Vapor/Water-Resistive Barrier Guidelines* technical bulletin for proper treatment of rough openings and sheathing joints.

LIMITATIONS

SHIPPING & STORAGE

Protect Master Builders Solutions materials during transportation and installation to avoid physical damage. Store Master Builders Solutions materials in a cool, dry place protected from freezing. Store at no less than 4 °C (40 °F) and below 49 °C (120 °F). Protect from extreme heat and direct sunlight.

STACKING

Do not stack pallets.

SHELF LIFE

Two (2) years, properly stored in original containers.

TECHNICAL SUPPORT

Consult Master Builders Solutions Technical Services Department at +1 (800) 589-1336 for specific recommendations concerning all other applications. Consult the Wall Systems website at senergy.master-builders-solutions.com/en, 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 senergy.master-builders-solutions.com/en, 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.

SOLIDS

73% solids

VOC CONTENT

12 g/l, or 0.10 lbs/gal less water and exempt solvents per ASTM D3960 (based in part on EPA method 24).

LIMITED WARRANTY NOTICE

Master Builders Solutions Construction Systems US, LLC ("Master Builders") warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. MASTER BUILDERS MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is shipment to purchaser of product equal to the amount of product that fails to meet this warranty or refund of the original purchase price of product that fails to meet this warranty, at the sole option of Master Builders. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are

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