

PRODUCT DATA SHEET

Sikagard® AWB 665

(formerly MSeal AWB 665)

VAPOR PERMEABLE AIR/WATER-RESISTIVE BARRIER

PRODUCT DESCRIPTION

Sikagard® AWB 665 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 brick, siding and metal panels.

USES

For use over the following exterior wall substrates: Poured concrete/unit masonry, poured concrete/unit masonry treated with Sikagard® AWB 600 FL or Sika Thorocoat®-749 Block Filler, ASTM C1177 type sheathings, including DensGlass™ 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, gypsum sheathing (ASTM C79/ASTM C1396), Fire resistive sheathing such as MagTec®, LP® FlameBlock®. Do not use Sikagard® AWB 665 for below-grade applications or on surfaces subject to water immersion.

PRODUCT INFORMATION

Chemical Base	Sikagard® AWB 665 is based on Silica Fortified Rubber™ chemistry.
Packaging	Sikagard® AWB 665 <ul style="list-style-type: none"> ▪ 5-gallon pail (18.9 L) pail
Shelf Life	Sikagard® AWB 665 has 2 years shelf life when properly stored

CHARACTERISTICS / ADVANTAGES

- ICC ESR-3209 Evaluation Report
- <1% of allowable air leakage per ASTM E2357 Air Leakage of Building Assemblies Test
- Meets ASTM D1970 nail sealability requirements with and without Sheathing Fabric
- Water-based, one-component, low-VOC formulation
- Nonflammable as applied. Class A Fire Rated (ASTM E84)
- Mineral oil and plasticizer free
- 180 Day UV Exposure
- 99% Drainage Efficiency per ASTM E 2273
- Meets NFPA 285 requirements when part of a tested assembly

APPROVALS / STANDARDS

- ICC ESR-3209 Evaluation Report
- ICC-IBC, ICC-IRC, ICC-IECC, and ABAA-compliant material
- ICC-ES AC 212: Acceptance Criteria for Water-Resistive Coatings used as Water-Resistive Barriers over Exterior Sheathing
- ICC-ES AC 148: Acceptance Criteria for Flexible Flashing Materials

Storage Conditions	Store in unopened containers in a clean, dry place to protect liquid system components from freezing. Store at no less than 4 °C (40 °F) and below 49 °C (120 °F). Protect from extreme heat and direct sunlight. Do not stack pallets.
Color	Light Gray
Solid content by mass	73%

TECHNICAL INFORMATION

Abrasion Resistance	<p>Pull-Off Strength of Coatings 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) (ASTM D 4541)</p>
Tensile Strength	<p>Tensile Strength after UV Exposure All samples meet the minimum requirement of 3.5N/mm (20 lbs/in) (ASTM D 5034, AAMA 711)</p> <p>Tensile Bond >103 kPa (15 psi) Tested over exterior gypsum sheathing, ASTM C1177 glassmat ASTM C1177 glass sheathing, cement board, OSB, plywood, CMU; pvc and galvanized flashing (ASTM C 297)</p> <p>(before & after freeze-thaw): >103 kPa (15 psi) avg; no failure of the lamina after 10 cycles freeze-thaw (Tested over various substrates) (ASTM C 297)</p>
Adhesion in peel	<p>Tested over ASTM C1177 glass-mat sheathing, OSB, plywood, PVC and uncoated aluminum (ASTM D3330 Method F)</p> <p>After UV exposure: Pass</p> <p>After Accelerated Aging: Pass</p> <p>After Elevated Temperature Exposure: Pass</p> <p>After Water Immersion: Pass</p> <p>Resistance to Peeling: 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) (AAMA 711)</p>
Low Temperature Bend	<p>No cracking after bending around a 25 mm (1") mandrel after 2-hour exposure to -18 °C (0 °F) (ASTM D 1970, AAMA 711)</p>
Thermal Resistance	<p>Compound Stability(Elevated Temperature) No flowing, dripping, or drop formation up to 177 °C (350 °F) (ASTM D 5147 Section 15)</p>
Water retention	<p>Drainage Efficiency 99% (ASTM E 2273)</p>
Water Penetration under Pressure	<p>No water penetration after 90 min at 299 Pa (6.24 psf) Tested over OSB and gypsum sheathing (ASTM E 331)</p> <p>Hydrostatic Pressure Test: No water penetration at 55 cm (21.7") water column for 5 hours (AATCC 127-1985)</p> <p>Nail Sealability(without Sheathing Fabric) Pass - No water penetration at galvanized roofing nail penetration under 127 mm (5") head of water after 3 days at 4 °C (40 °F) (ASTM D 1970)</p> <p>Nail Sealability after Thermal Cycling</p>

	Pass	(ASTM D 1970 (Modified), AAMA 711)
Permeability to Water Vapor	18 Perms (grains/Hr. in Hg. ft ²) at 12 mils wet film thickness	(ASTM E 96 Method B)
	14 Perms (grains/Hr. in Hg. ft ²) at 20 mils wet film thickness	
Air leakage rate	0.0185 l/s.m ² at 75 Pa (0.0037 cfm/ft ² at 1.57 psf)	(ASTM E 283)
	Air Leakage of Air Barrier Assemblies 0.0007 l/s.m ² (0.0001 cfm/ft ²) at 75 Pa (1.57 psf) positive/post conditioning	(ASTM E 2178)
	0.0014 l/s.m ² (0.0003 cfm/ft ²) at 75 Pa (1.57 psf) negative/post conditioning	
Air permeance	0049 l/s.m ² at 75 Pa (0.00098 cfm/ft ² at 1.57 psf)	(ASTM E 2178)
Water resistance	No sign of deleterious effects after 14-day exposure (Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood)	(ASTM D 2247)
	Hydrostatic Pressure: No water penetration at 55cm (21.7") water column for 5 hours	(AATCC 127-1985)
UV Exposure	No cracking or bond failure to substrate	(ICC-ES AC 212)
	No cracking or bond failure to substrate	(ICC-ES AC 148)
Behavior after Artificial Weathering	Structural: No cracking at joints or interface of flashing	(ASTM E 1233 Procedure A)
	Racking: No cracking at joints or interface of flashing	(ASTM E 72)
	Restrained Environmental Conditioning: No cracking at joints or interface of flashing	(ICC-ES AC 212)
Freeze-Thaw Stability	No sign of deleterious effects after 10 cycles (Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood)	(ASTM E 2485 (Method B))
Artificial Ageing	No cracking or bond failure to substrate	(ICC-ES AC 212)
	No cracking or bond failure to substrate	(ICC-ES AC 148)
External Fire Performance	Radiant Heat Multi-Story Tests Passed using numerous wall assemblies. Engineering analyses are available upon request.	(NFPA 268, NFPA 285)
Reaction to Fire	Class A Flame Spread (<25)	(ASTM E 84)
	Class A Smoke Developed Spread (<450)	
Resistance to fire	Will not add or detract from the rating of a fire resistive wall assembly	(ASTM E 119/UL 263)

APPLICATION INFORMATION

Coverage

Substrate

ASTM C1177 Type Sheathing: 525 ft² (48 m²) per pail

Cement Board: 575 ft² (53 m²) per pail

Plywood*: 295 ft² (27 m²) per pail

Oriented Strand Board (OSB): 295 ft² (27 m²) per pail

Concrete Masonry Units (CMU)*:

- Standard Weight 265 ft² (24 m²) per pail

- Medium Weight 180 ft² (17 m²) per pail
 - Light Weight 125 ft² (12 m²) per pail
- Poured Concrete***: 575 ft² (46m²) per pail

* 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 uptake, or other factors.

Concrete/Masonry with Sikagard AWB 600 FL: 500 ft² (46 m²) per pail
Embed Sikagard® AWB 971 FIB

- 4" Sikagard® AWB 971 FIB 630 ft (192 m) per pail
- 6" Sikagard® AWB 971 FIB 420 ft (128 m) per pail
- 9" Sikagard® AWB 971 FIB 280 ft (85 m) per pail

Note: Coverage for C1177 sheathing, cement board, and poured concrete is at 12 mils WFT; for plywood, OSB and CMU are at 24 mils WFT. Sikagard® AWB 971 FIB saturated with Sikagard® AWB 665, when applied per manufacturer instructions, self-gauges to a 30–40 mil thickness.

Drying Time

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

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS

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 affect the overall consumption of the material affecting the coverage rates. If pump filters are used, the 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.

SUBSTRATE PREPARATION

Substrates shall be dry, clean, sound, and free of dust, release agents, paint, or other residue or coatings. Verify substrate is, 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 Sikagard® AWB 665.

Walls should be capped to prevent moisture and precipitation from entering the wall during construction. Limit UV and weather exposure of Sikagard® AWB 665 to a maximum of 180 days.

SURFACE PREPARATION

- Cold temperature application less than 40 °F (4 °C) down to 25 °F (-4 °C): expect extended dry time. 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 the wall during construction.
 - Treat expansion joints with Sikalastic® Tape AWB-970 NP or Sikagard-540 Plus flashing membrane, and provide sufficient slack in Sikalastic® Tape AWB-970 NP or Sikagard-540 Plus at the joint to allow for movement.
1. The substrate shall be of a type acceptable by Sika and shall be installed per substrate manufacturer's instructions and local code requirements.
 2. Rough openings and sheathing joints can be treated with Sikagard® AWB 900 Liquid Flashing Membrane or Sikagard® AWB 971 FIB saturated with Sikagard® AWB 665.

Prior to installation of insulation and/or cladding materials, visually inspect the Sikagard® AWB 665 for voids, pinholes, surface deficiencies, etc. Repair deficiencies and areas that are not intact. Apply additional Sikagard® AWB 665 as necessary such that

Sikagard® AWB 665 is free of voids, pinholes, etc. All sheathing joints, terminations, inside and outside corners must be reinforced with 4", 6" or 9" Sikagard® AWB 971 FIB embedded in Sikagard® AWB 665; Sikalastic® Tape AWB-970 NP or Sikagard-540 Plus; or Sikagard® AWB 900." Reference Air/Vapor/Water-Resistive Barrier Guidelines technical bulletin for proper treatment of rough openings and sheathing joints.

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 that has contained or been cleaned with a petroleum-based product.
2. Mix Sikagard® AWB 665 with a clean, rust-free paddle and drill until thoroughly blended. Dilution of Sikagard® AWB 665 is not recommended.
3. Additives are not permitted.
4. Close the container when not in use.
5. Clean tools and equipment with water immediately after use. Dried material can only be removed mechanically.

APPLICATION

USING Sikagard® AWB 900

Flashing Rough Openings:

1. Apply a bead of Sikagard® AWB 900 in each corner of the rough opening and tool Sikagard® AWB 900 into corners, ensuring that corners are fully sealed. Where wood bucks are used, tool Sikagard® AWB 900 into gaps between bucks and between the building structure.
2. Apply additional Sikagard® AWB 900 in a zigzag pattern onto the head, sill, jambs, and exterior substrate. Spread Sikagard® AWB 900 evenly across the rough opening to form a uniform, continuous, void- and pinhole-free membrane with a 12-20 mil thickness. Spread Sikagard® AWB 900 before it skins, typically within 2-3 minutes of application.
3. Extend Sikagard® AWB 900 membrane minimum of 4 inches onto the exterior wall, maintaining 12-30 mil thickness.
4. Allow Sikagard® AWB 900 to skin before applying Sikagard® AWB 665 to the sheathing. Lap air/water-resistive barrier a minimum of 2 inches onto Sikagard® AWB 900, creating a continuous, monolithic air/water-resistive barrier.
5. Allow Sikagard® AWB 900 to cure before installing windows.

Sheathing Joints:

Sikagard® AWB 900 can be used to fill sheathing joints up to ½" wide.

1. Apply a thick bead of Sikagard® AWB 900 to sheathing joints.
 2. Spread Sikagard® AWB 900 evenly 1-inch beyond the joint on either side. Apply 20 mils of Sikagard® AWB 900 across the sheathing joint.
 3. Spot fastener heads with Sikagard® AWB 900 or Sikagard® AWB 665.
 4. Allow Sikagard® AWB 900 to skin before applying a subsequent coat of air/water-resistive barrier.
 5. See the Sikagard® AWB 900 product bulletin for coverages and additional product highlights.
- OR –

USING Sikagard® AWB 971 FIB

Flashing Rough Openings:

To wrap openings with Sikagard® AWB 971 FIB. Apply a generous amount of mixed Sikagard® AWB 665 to all surfaces and immediately embed Sikagard® AWB 971 FIB, completely saturating the Sikagard® AWB 971 FIB. If necessary, apply a second coat of Sikagard® AWB 665 to ensure a complete, void-free membrane.

Sheathing Joints:

1. Spot all fasteners and precoat sheathing joints, terminations, inside and outside corners with mixed Sikagard® AWB 665 using a 101 mm (4") wide by 13 mm (½") nap roller, brush, or spray.
2. B. Immediately place and center Sikagard® AWB 971 FIB over wet Sikagard® AWB 665 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 Sikagard® AWB 971 FIB extends evenly on both sides of the sheathing joint. Completely saturate Sikagard® AWB 971 FIB with Sikagard® AWB 665.
3. Lap Sikagard® AWB 971 FIB 63.5 mm (2 ½") minimum at intersections.
4. If using a roller or brush application, allow it to dry to the touch before applying Sikagard® AWB 665 to the entire wall surface. If spraying, "wet on wet" application is acceptable.
5. Apply Sikagard® AWB 665 to concrete, DensGlass™ 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 instructions and equipment requirements.
 - Apply Sikagard® AWB 665 to plywood, OSB, or CMU substrate(s) with airless spray equipment or 13 mm (1/2") nap roller with a consistent, minimum 12-wet mil thickness. Prior to application of the second coat, visually inspect to ensure the coating is free of voids and pinholes. Then apply a second coat after the initial coating is sufficiently dry. Note: A minimum of two (2) 12 mil wet coats of Sikagard® AWB 665 is required over OSB, plywood, and CMU. Sikagard® AWB 665 may be sprayed to a 24-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.

LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL**

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