BUILDING TRUST

PRODUCT DATA SHEET

Sikagard® AWB 660

(formerly MSeal AWB 660)

VAPOR PERMEABLE AIR/WATER-RESISTIVE BARRIER

PRODUCT DESCRIPTION

Sikagard® AWB 660 is a one-component, fluid-applied vapor permeable air/water-resistive barrier. This waterproof, resilient coating may be spray-, roller-, brush-, or trowel- applied directly to approved above-grade wall substrates. It provides excellent secondary moisture protection behind most wall claddings including brick, siding, metal panels, EIFS, and stucco. A slip sheet is required for stucco claddings.

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™ or DensElementexterior 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, gypsum sheathing (ASTM C79/ASTM C1396), Fire resistive sheathing such as MagTec, LP FlameBlock

Do not use Sikagard® AWB 660 for below-grade applications or on surfaces subject to water immersion

CHARACTERISTICS / ADVANTAGES

Features	Benefits
ICC ESR-3209 Evaluation Report	Confirms compliance with IBC, IRC, and IECL requirements
ABAA evaluated	Approved for projects requiring ABAA specifications and quality assurance
<1% of allowable air leakage per ASTM E2357 Air Leakage of Building Assemblies test	Easily meets air tightness requirements defined by ASHRAE 189.1, ASHRAE 90.1, and ABAA
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 are not required
Tough, abrasion-resistant	Rugged membrane resists damage after installation
180-day outdoor exposure rating	Flexible construction scheduling

APPROVALS / STANDARDS

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
Sikagard® AWB 660 complies with the air barrier requirements of the Massachusetts State Energy Code

PRODUCT INFORMATION

Packaging	Sikagard® AWB 660: 5-gallon pail (18.9 L) pail
Shelf Life	Sikagard® AWB 660 has a 2 year shelf life when properly stored
Storage Conditions	Store in unopened containers in a clean, dry place to protect liquid system components from freezing. Store at no less than 40 °F (4 °C) and below 120 °F (49 °C). Protect from extreme heat and direct sunlight. Do not stack pallets.
Color	Gray
Solid content by mass	74%

TECHNICAL INFORMATION

Abrasion Resistance	**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)
Tensile Strength	**Tensile Strength after UV Exposure:** All samples meet the minimum requirement of 3.5N/mm (20 lbs/in) **Tensile Bond** **Tensile Bond:** >103 kPa (15 psi) Tested over exterior gypsum sheathing, ASTM C1177 glassmat sheathing, cement board, OSB, plywood, CMU; pvc and galvanized flashing **Tensile Bond (Before and after freeze-thaw):** >103 kPa (15 psi) avg; no failure of the lamina after 10 cycles freeze-thaw (Tested over various substrates)	(ASTM D 5034, AAMA 711) (ASTM C 297)
Adhesion in peel	Tested over ASTM C1177 glass-mat sheathing, OSB, plywood, PVC and uncoated aluminum After UV Exposure: Pass After Accelerated Aging: Pass After Elevated Temperature Exposure: Pass After Water Immersion: Pass **Resistance to Peeling** 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)	(ASTM D3330 Method F) (AAMA 711)
Low Temperature Bend	No cracking after bending around a 25 mm (1") mandrel after 2 hour exposure to 0 °F (-18 °C)	(ASTM D 1970, AAMA 711)
Thermal Resistance	**Compound Stability** No flowing, dripping, or drop formation up to 350 °F (177 °C)	(ASTM D 5147 Section 15)

Water retention	**Drainage Efficiency** 99%	(ASTM E 2273)
Water Penetration under Pressure	**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 40 °F (4 °C)	(ASTM D 1970)
	Nail Sealability after Thermal Cycling: Pass	(ASTM D 1970 (Modified), AAMA 711)
Permeability to Water Vapor	**Water Vapour Transmission** 18 Perms (grains/Hr. in Hg. ft2) at 10 mils wet film thickness	(ASTM E 96 Method B)
	14 Perms (grains/Hr. in Hg. ft2) at 20 mils wet film thickness	
Static air pressure difference	**Water Penetration** by Uniform Static Air Pressure Difference No water penetration after 90 min at 299 Pa (6.24 psf) Tested over OSB and gypsum sheathing	(ASTM E 331)
Air leakage rate	0.0185 l/s·m² at 75 Pa (0.0037 cfm/ft² at 1.57 psf)	(ASTM E 283)
	Air Leakage of Air Barrier Assemblies 0.0007 l/s.m² (0.0001 cfm/ft²) at 75 Pa (1.57 psf) positive/post conditioning	(ASTM E 2357)
	0.0014 l/s.m² (0.0003 cfm/ft²) at 75 Pa (1.57 psf) negative/post conditioning	
Air permeance	**Air Permeance of Building Materials** 0.0049 l/s.m2 at 75 Pa (0.00098 cfm/ft2 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 55 cm (21.7") water column for 5 hours	(AATCC 127-1985)
UV Exposure	No cracking or bond failure to substrate	(ICC-ES AC 212) and (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) and (ICC-ES AC 148)
External Fire Performance	**Radiant Heat Multi-Story Tests** Passed using numerous wall assemblies. Engineering analyses are available upon request.	(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	ASTM C1177 Type Sheathing:450 ft² (41 m²) per pail Cement Board:500 ft² (46 m²) per pail Plywood*:265 ft² (24 m²) per pail Oriented Strand Board (OSB):265 ft² (24 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*:500 ft² (46 m²) per pail 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 * 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. Note: Sikagard® AWB 971 FIB saturated with Sikagard® AWB 660, when applied per manufacturer instructions, self-gauges to a 30-40 mil thickness.
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 10-mil wet film thickness, typically dry in approximately 12 hours at 32 °F (0 °C) and 50% relative humidity (RH). When applied at a 20-mil thickness (single pass spray), 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).

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

Use a 20 mm (3/4”) nap roller or paint brush. If spraying, refer to Spray Application of apply Sikagard® AWB 660/ Sikagard® AWB 665/ Sikagard® AWB 600 FL technical bulletin for spray application equipment and application instructions.
Note: If using roller application, it is necessary to pre-wet the synthetic roller pad with water and spin out the excess water. The pre-wetting only needs to be done once at the start of application.

SUBSTRATE PREPARATION

The substrate shall be dry, clean, sound, and free of release agents, paint, or other residue or coatings. Verify that the substrate is flat, free of fins or planar

irregularities greater than 6.4 mm in 3 m (1/4” in 10’). Unsatisfactory conditions shall be reported to the general contractor and corrected before the application of Sikagard® AWB 660.

PRODUCT CONSIDERATIONS AND JOB CONDITIONS

- 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)
- Do not apply Sikagard® AWB 660 in ambient temperatures below 25 °F (-4 °C) or onto substrates below 25 °F (-4 °C).
- Walls shall be capped to prevent moisture and precipitation from entering the wall during construction.
- Treat expansion joints with 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.

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 660 with a clean, rust-free paddle and drill until thoroughly blended. Dilution of Sikagard® AWB 660 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

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. Apply Sikagard® AWB 660 and/or apply Sikagard® AWB 900 Liquid Flashing Membrane to fasteners, sheathing joints, and rough openings as outlined in Sikagard® AWB Application Guidelines for Joint Treatment and Flashing Rough Openings on Framed Construction technical bulletin or apply Sikagard® AWB Application Guidelines for Flashing Rough Openings on Concrete and Masonry Construction technical bulletin.
3. A. Immediately place and center Sikagard® AWB 971 FIB over wet Sikagard® AWB 660 at knot holes and check cracks that may exist in plywood or OSB. Completely saturate Sikagard® AWB 971 FIB with Sikagard® AWB 660.
   B. If using roller, brush, or trowel application, allow to dry to the touch before applying Sikagard® AWB 660 to entire wall surface. If spraying, “wet on wet” application is acceptable.
4. Refer to Spray Application of Sikagard® AWB 660 / Sikagard® AWB 665/ Sikagard® AWB 600 FL technical bulletin for spray application equipment and application instructions.
5. A. Apply Sikagard® AWB 660 to DensGlass™ exterior sheathing, eXP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing, Weather Defense™ Platinum sheathing, GreenGlass® sheathing, PermaBaseTM cement-board by National Gypsum and other cementboards (ASTM C1325 Type A Exterior), gypsum sheathing (ASTM C79/ASTM C1396) and concrete with a 20 mm (3/4”) nap roller, stainless steel trowel, brush or spray gun to a consistent, minimum 10 wet mil thickness that is free of voids and pin holes. A fully loaded roller pad is required to obtain a consistent, minimum 10 wet mil thickness.
   B. Apply Sikagard® AWB 660 at a minimum of 10-mil wet film thickness on concrete/masonry substrates that have received a fully cured application of Sikagard® AWB 600 FL Block Filler. For concrete/masonry substrates that have not been treated with Sikagard® AWB 600 FL Block Filler, two (2) minimum 10-mil applications of Sikagard® AWB 660 are required. Note: Lightweight CMU or other CMU with high porosity may require additional Sikagard® AWB 660 to produce an acceptable result.
   C. Apply Sikagard® AWB 660 to plywood and OSB sheathing using a 20 mm (3/4”) nap roller or spray to a consistent, minimum 10-mil wet film thickness. Visually inspect to determine whether the sheathing surface is fully coated and free of voids and pinholes. Repair as re required to produce a continuous coating. Apply a second 10 ml wet film coat of Sikagard® AWB 660 to produce a total wet film thickness of 20 mils.
   D. Visually inspect the Sikagard® AWB 660 for voids, pinholes, surface deficiencies, etc. Repair deficiencies and areas that are not intact. Apply additional Sikagard® AWB 660 as necessary such that Sikagard® AWB 660 is free of voids, pinholes, etc. All sheathing joints, terminations, inside and outside corners must be reinforced with 4” or 9” Sikalastic® Tape AWB-970 NP or Sikagard-540 Plus.

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 APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: +1-800-933-7452
Fax: +1-201-933-6225
usa.sika.com