

Sto AirSeal®

81646-301 Sto AirSeal® - Black
81646-302 Sto AirSeal® - Charcoal

Fluid-applied, high build vapor permeable air and moisture barrier (AMB)



Technical Data

REPORT	TEST METHOD	TEST CRITERIA	TEST RESULTS
Water Penetration Resistance	AAMA 509	Voluntary Classification	Classification: W1 in StoVentec systems
Water Column	AATCC 127 (modified)	No leakage @ 5 hours	Pass
Low Temperature Crack Bridging	ASTM C1305	No cracking after 10 cycles at -15°F (-26°C)	Pass
Elongation	ASTM D412	Measure	> 500% at 40 mils DFT > 450% at 30 mils DFT
Tensile Strength	ASTM D412	Measure	> 15 psi
Resistance to Mold	ASTM D3273	No growth at 30 days	Rating = 10 (no growth) at 70 days
Adhesion to Substrates	ASTM D4541	≥ 15 psi (103 kPa)	> 15 psi (103 kPa) over glass mat gypsum > 50 psi (344 kPa) over CMU, OSB & plywood
Surface Burning	ASTM E84	Flame Spread: ≤ 25 Smoke Developed: ≤ 450	Flame Spread: < 25 Smoke Developed: < 450
Water Vapor Permeance	ASTM E96 Method B	Measure	> 12 perms at 40 DFT (689 ng/Pa·s·m²)
Air Leakage	ASTM E2178	< 0.02 L/m²·s @ 75 Pa (<0.004 cfm/ft² @ 1.57 psf)	Pass
Air Leakage of Air Barrier Assembly	ASTM E2357	< 0.2 L/s·m² at 75 Pa (< 0.04 cfm/ft² at 1.57 psf)	Pass*
%Solids (by volume)	Calculation	N/A	61%
Color	N/A	N/A	Black or Charcoal
VOC Compliance	Complies with US EPA (40 CFR 59) and South Coast AQMD (Rule 1113) VOC emission standards for Building Envelope Coating, VOC < 50 g/L		
Building Code Compliance	<ul style="list-style-type: none"> Meets requirements of 2018 IBC, IRC, and IECC as an air barrier and water-resistive barrier, ICC AC 212 and ASTM E 2570 Meets requirements of NFPA 285 for use on Types I-IV construction when used in StoVentec rainscreen systems, refer to Intertek Design Listings STO-CWP 30-01 and STO-CWP 30-02 Meets requirements of NFPA 285 for use on Types I-IV construction for multiple wall assemblies, refer to ICC-ESR 1233 		

Sto AirSeal® is a fluid-applied vapor permeable air and moisture barrier (AMB) for use behind StoVentec™ RainScreen®, StoTherm® ci, StoPowerwall®, StoQuik® Silver and other wall claddings such as masonry, stone, stucco, and fiber cement. It is used over prepared vertical above grade wall substrates such as concrete, concrete masonry, and glass mat gypsum, plywood, or OSB sheathing

Approximate Coverage

85-105 ft² (7.9 – 9.8 m²) per pail when applied at 66 wet mils (40 mil DFT).

125 -145 ft² (11.6 – 13.5 m²) per pail when applied at 50 wet mils (30 mil DFT)

155 -175 ft² (14.4 – 16.3 m²) per pail when applied at 40 wet mils (25 mil DFT)

Coverage may vary depending on substrate conditions, application technique, waste factor, and final film thickness. Refer to Sto Tech Hotline No. 06-14-BSc for information on glass mat gypsum sheathing substrates. CMU substrates will generally be on the lower end of the coverage range.

Construct a mock-up under actual conditions of use to verify proper surface preparation, number of coats required, coverage, and method of application, for approval by the appropriate authority.

Results are based on lab testing under controlled conditions. Results can vary between labs or from field tests.

* Based on tests performed with joint treatment and no air barrier top coat

Features	Benefits
1 Waterproof material	Minimizes risk of water damage
2 Vapor Permeable	Minimizes risk of condensation in walls
3 Structural and durable	Rigid and stable under air pressure loads; does not tear or blow off the wall with wind
4 Spray applied with airless spray equipment	Easy, fast installation; does not require specialized spray equipment
5 Water-based and low VOC	Safe, VOC compliant, easy clean-up, improved IAQ
6 Compatible with other StoGuard Products	Reliability and peace of mind

Packaging

5 gallon (19 L) pail.

Color

Black and Charcoal.

Shelf Life

18 months, if properly stored and sealed.

Storage

Store in a cool, dry area. Protect from extreme heat [90°F (32°C)], freezing, and direct sunlight

Sto AirSeal®

Surface Preparation

Use only over code compliant above grade wall construction. Brick Veneer Wall Assemblies; provide cavity wall construction. Stucco Wall Assemblies; provide a WRB slip sheet between the AMB and stucco. Ensure all attachment penetrations through the AMB go into structural support members and are adequately sealed. Refer to StoGuard® guide details. Avoid the use of powder actuated fasteners and other tools that can damage the AMB. Surfaces must be fully cured, structurally sound, clean, dry, and free of frost, damage, and all bond-inhibiting materials, including dirt, dust, efflorescence, form oil and other foreign matter.

Mixing

Mix to a uniform consistency with an electric drill and clean, rust-free paddle.

Application

Provide adequate ventilation and ensure surface and ambient temperatures are between 40°F and 100°F (4°C and 38°C) during application and drying period. Apply only to fully cured, structurally sound, clean, dry, properly prepared, frost-free surfaces.

Spray Application

Apply Sto AirSeal to the prepared substrate using airless spray equipment that pumps a minimum 1 gallon (3.8L) per minute. Suggested tip size is .029. Pressure and tip size may vary depending on equipment used. Spray uniformly at thickness of approximately:

- 40 wet mils to achieve approx. 25 mil DFT, (applicable only with StoTherm ci systems)
- 50 wet mils to achieve min. 30 mil DFT
- 66 wet mils to achieve min. 40 mil DFT where 40 DFT is specified.

Achieve a void and pinhole free surface. If necessary, allow material to set slightly (up to 1 hour depending on weather and substrate conditions), and double back with a second pass to achieve total thickness. Alternatively, apply in two coats, allowing the first coat to fully dry. CMU surfaces may require back rolling of the first pass with a ¾ or 1 inch (19 or 25 mm) synthetic nap roller depending on porosity, joint profile, trueness of the wall surface, and other

Limitations

- Apply only when surface and ambient temperatures are between 40°F and 100°F (4°C and 38°C) during application and drying period.
- Do not apply if the surface temperature is less than 5°F (2.8°C) above the ambient dew point temperature.
- Do not use below grade or on surfaces subject to in-service water immersion.
- 25 DFT mil application thickness applies only with StoTherm ci systems

Sheathing must be Exterior Grade or Exposure 1 wood-based sheathing or ASTM C1177 compliant glass mat gypsum sheathing. Treat sheathing joints, inside and outside corners, rough openings, and transition details with appropriate StoGuard components. Refer to Sto Details. Pre-treat defects such as knots in wood-based sheathing, vacant fastener holes, and minor cracks (up to 1/16 inch [1.6 mm] wide) in concrete and CMU with Sto AirSeal. If cracks are structural consult an engineer. Note: for fast drying in cold or damp weather use Sto RapidGuard™ for detailing and pre-treatments. Apply Sto AirSeal over Sto RapidGuard™ within 48 hours of drying.

Do not thin or dilute with water.

variables that may exist. Avoid excess build-up of wet material to prevent sag, especially on non-porous surfaces and during cold or damp weather. Work away from the sun during application.

Roller Application

Roller application is recommended at detail areas such as treatment of sheathing joints and rough openings with StoGuard Fabric. Use a ¾ inch (19 mm) synthetic nap roller and apply liberally.

Drying

Product dries in 24 hours under normal drying conditions [70°F (21°C), 50% RH]. Final dry time varies depending on temperature/humidity, thickness of application, and surface conditions. Cold weather and/or damp conditions prolong drying. Protect from rain and freezing until completely dry. Hot and/or dry conditions accelerate drying. If temporary heaters are used ventilate to the exterior to prevent water vapor from accumulating on or within the wall assembly components.

Clean Up

Clean tools and equipment with water immediately after use. Dried material can only be removed mechanically.

- Weather exposure: protect WRB with wall cladding within 180 days of installation.
- Allowable in-service temperature range: -40°F to 180°F (-40°C to 82°C)
- Fire-retardant or pressure treated plywood must be dry with surface free of salts or other chemicals migrating from within the wood. Test adhesion to be sure of desired results.

Health And Safety

Health Precautions

WARNING!

May cause eye and/or skin irritation.

Safety Precautions

Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

First Aid: Eye Contact: Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention. Skin Contact: Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Store locked up.

Spills: Dry stage: Sweep and dispose of in proper receptacle. Wet stage: Absorb, sweep up and discard. Keep out of sewers and other public water systems.

Disposal: Dispose of in accordance with local, state or federal regulations.

Warning: KEEP CONTAINER CLOSED WHEN NOT IN USE. KEEP OUT OF THE REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION. FOR INDUSTRIAL USE ONLY. Consult the Safety Data Sheet on www.stocorp.com or by calling 1-800-221-2397 for further health and safety information.

LIMITED WARRANTY

This product is subject to a written limited warranty which can be obtained free of charge from Sto Corp.

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Attention

This product is intended for use by qualified professional contractors, not consumers, as a component of a larger construction assembly as specified by a qualified design professional, general contractor or builder. It should be installed in accordance with those specifications and Sto's instructions. Sto Corp. disclaims all, and assumes no, liability for on-site inspections, for its products applied improperly, or by unqualified persons or entities, or as part of an improperly designed or constructed building, for the nonperformance of adjacent building components or assemblies, or for other construction activities beyond Sto's control. Improper use of this product or use as part of an improperly designed or constructed larger assembly or building may result in serious damage to this product, and to the structure of the building or its components. **STO CORP. DISCLAIMS ALL WARRANTIES EXPRESSED OR IMPLIED EXCEPT FOR EXPLICIT LIMITED WRITTEN WARRANTIES ISSUED TO AND ACCEPTED BY BUILDING OWNERS IN ACCORDANCE WITH STO'S WARRANTY PROGRAMS WHICH ARE SUBJECT TO CHANGE FROM TIME TO TIME.** For the fullest, most current information on proper application, clean-up, mixing and other specifications and warranties, cautions and disclaimers, please refer to the Sto Corp. website, www.stocorp.com.