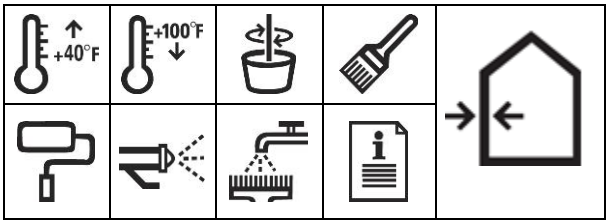
Building with conscience.

PRODUCT BULLETIN

Sto AirSeal®

Product Number: 81646



PRODUCT DESCRIPTION

Sto AirSeal is a vapor permeable fluid-applied membrane for use over prepared vertical above-grade concrete, concrete masonry, brick masonry, wood sheathing, cementitious sheathing, and glass mat gypsum sheathing, as part of a StoGuard® air and water-resistive barrier system. It is used in Sto proprietary wall systems and beneath multiple cladding types, including rainscreen claddings

FEATURES	BENEFITS
Three available installation options	Design and construction team can match installation specification with project needs
Vapor Permeable	Minimizes risk of condensation in walls
High elongation (>500%) and cold temperature crack bridging	Meets ASTM C1305 Low Temperature Crack Bridging requirements
Structural and durable	Rigid and stable under air pressure loads; does not tear or blow off the wall with wind
UV durable	Can be left exposed for up to 6 months before covering with wall cladding. Ideal for use behind open joint rainscreen claddings
Spray applied with airless spray equipment	Easy, fast installation; does not require specialized spray equipment
Water-based and low VOC	Safe, VOC compliant, easy clean-up, improved IAQ
Compatible with other StoGuard Products	Reliability and peace of mind

Coverage (per pail)
20 mils WFT: 335-355 ft^2 (31-33m^2)
40 mils WFT: 180-210 ft^2 (17-19m^2)
65 mils WFT: 100-130 ft^2 (9.3-12m^2)

Coverage may vary depending on substrate, application technique, waste factor, and other variables that may exist. 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.

Packaging: 5 gallon (19L) pail

Shelf Life: 12 months in original, unopened, properly stored container.

Storage: Store in tightly sealed container. Protect from extreme heat [90°F (32°C)], freezing and direct sunlight.

SURFACE PREPARATION

Sto Proprietary Wall Systems: StoTherm® ci, StoVentec®, StoPowerwall®, StoQuik® Silver, StoPanel®, and StoLite® systems. Refer to applicable Sto Specification.

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. Sheathing must be Exterior Grade or Exposure 1 wood-based sheathing, cementitious sheathing in compliance with ASTM C1325 Type A, or glass mat gypsum sheathing in compliance with ASTM C1177. Sheathing must be installed in compliance with the building code and manufacturer's recommendations. Treat sheathing joints, inside and outside corners, rough openings, and transition details with appropriate StoGuard Detail Components. Refer to Sto Details. Pre-treat defects such as knots in wood-based sheathing, vacant fastener holes or over-driven fasteners, and minor cracks (up to 1/16 inch [1.6 mm] wide) in concrete and CMU with Sto RapidGuard®. 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 its drying for best adhesion.

MIXING

Mix to a uniform consistency with an electric drill and clean, rust-free paddle. Do not thin or dilute with water.

APPLICATION

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

Apply Sto AirSeal to the prepared substrate using a ½ or ¾ inch (13 or 19mm) nap roller or airless spray equipment. Suggested tip size is .031. Pressure and tip size may vary depending on equipment used. Back roll airless spray applications over OSB and CMU substrates. Apply uniformly to achieve a VOID and PINHOLE free surface on all substrates.

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Application for Substrate-Driven Specification:

- Glass Mat Gypsum: apply one coat at minimum 20 mils WFT
- Plywood: apply one coat at minimum 20 mils WFT
- Cement Board: apply one coat at minimum 20 mils WFT
- OSB: apply one or two coats at minimum 20 mils WFT. Touch up any bare spots and raised OSB strands.
- CMU: apply one, two or three coats at 20-65 mils WFT. If applied by roller, apply minimum two coats.
- Concrete: apply one coat at minimum 20 mils WFT

Application for Medium-Build Specification: apply by airless spray in one or two coats to achieve minimum 40 mils WFT. If applied by roller, apply two coats to achieve minimum 40 mils WFT. For CMU substrates, apply one, two or three coats to achieve 40-65 mils WFT.

Application for High-Build Specification: apply by airless spray in one, two or three coats to achieve minimum 65 mils WFT. If applied by roller apply minimum three coats to achieve minimum 65 mils WFT.

IMPORTANT: the condition of the substrate may dictate thicker application or more coats to achieve a VOID and PINHOLE FREE SURFACE, particularly on substrates like concrete masonry where CMU composition, unit weight (lightweight or normal weight), porosity, joint profile, and other variables may exist. For "rough" CMU wall surfaces level with a Sto portland cement based leveler or fill with StoPrime® Block Surfacer HP before applying the coating. Use the mock-up and site tests as the basis for the work. Some highly absorbent glass mat gypsum sheathing substrates may require back rolling to achieve a VOID and PINHOLE FREE surface. Avoid excess film build-up of wet material to prevent sag, especially on non-porous surfaces and during cold or damp weather. Work away from sun during application.

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

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 delay drying. Protect from rain, high humidity, and temperatures less than 40°F (4°C) until completely dry. IMPORTANT: IF TEMPORARY HEATERS ARE USED, VENTILATE TO THE EXTERIOR TO PREVENT WATER VAPOR FROM CONDENSING ON OR WITHIN THE WALL ASSEMBLY COMPONENTS.

LIMITATIONS

- Apply only when surface and ambient temperatures are between 40 and 100°F (4 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.
- Allowable weather exposure: 180 days. When used in conjunction with adhesively attached StoTherm ci Systems ensure the surface is clean, dry and free of surface contamination.
- Exercise care when mechanically attaching wall assembly components through Sto AirSeal so that fasteners go into (not between) framing supports. Do not use powder actuated or other fastening devices that can damage the substrate. Seal all penetrations through the wall to make them watertight. Test assemblies when necessary to verify watertightness.
- Allowable in-service temperature range: -40° to 180°F (-40° 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.
- Use a slip sheet, typically one layer of building paper (or Sto DrainScreen® and building paper), between Sto AirSeal and stucco or adhered masonry veneer over metal lath.
- Use beneath certain cladding types may be restricted by local building codes. Refer to ICC ESR-1748 for use with StoTherm ci. Refer to ICC ESR-1233, Tables 1 and 2, for use with other claddings.

LIMITED WARRANTY

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

HEALTH & SAFETY

Health Precautions: Product is water-based. As with any chemical construction product, exercise care when handling.
WARNING: Causes eye and skin irritation.
Precautionary Statement: Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
FIRST AID MEASURES: 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: Collect with suitable absorbent material such as cotton rags.
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 (SDS) on www.stocorp.com for further health and safety information.

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TECHNICAL DATA

REPORT	TEST METHOD	TEST CRITERIA	TEST RESULT
%Solids (by volume)	Calculation	N/A	60%
Color	N/A	N/A	Charcoal
Air Leakage Resistance	ASTM E2178	< 0.02 L/m²·s @ 75 Pa (<0.004 cfm/ft² @ 1.57 psf)	Pass
Water Vapor Permeability	ASTM E96 Method B	Measure	> 12 perms at nominal 40 mil DFT (689 ng /Pa·s·m2)
Surface Burning	ASTM E84	Flame Spread: ≤ 25 Smoke Developed: ≤ 450	Flame Spread: 20 Smoke Developed: 80
Elongation	ASTM D412	Measure	> 500% at 40 mil DFT > 450% at 30 mil DFT
Tensile Strength	ASTM D412	Measure	> 15 psi
Low Temperature Crack Bridging	ASTM C1305	No cracking after 10 cycles at -15°F (-26°C)	Pass
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
Nail Sealability	ASTM D1970	No water penetration after 72 hours at 40°F (4°C)	Pass
Resistance to Mold	ASTM D3273	No growth at 30 days	Rating = 10 (no growth) at 70 days
Accelerated Weathering/ Hydrostatic Pressure	ASTM E2570/ AATCC 127 (modified)	No cracking of the coating or bond failure, no water penetration after cyclic weathering & 5 hour water column (21.5 in [55 cm])	Pass
Structural, Racking, Restrained Environmental Conditioning, and Resistance to Water Penetration	ASTM E2570/ E1233/ E72/E331 (par 6.6.3)	No cracking in the field of the panel, at substrate joints, and at the interface with flashing	Pass, No water penetration after sequence of 15 minute water sprays at 2.86, 6.24 psf (137, 299 Pa)
Air Leakage of Air Barrier Assembly*	ASTM E2357	< 0.2 L/s●m2 @ 75 Pa (< 0.04 cfm/ft2 @ 1.57 psf)	Pass
Water Penetration Resistance of Assembly	AAMA 509	Voluntary Classification	Classification: W1 in StoVentec systems
Fire Performance of Assembly	NFPA 285	Comply with acceptance criteria	Complies (see below)

Building Code Compliance	• Meets requirements of 2018 IBC, IRC, and IECC as an air barrier and water-resistive barrier, complies with requirements of ICC AC 212 and ASTM E2570. Refer to ICC-ESR 1233.
	• Class A Building Material. Meets requirements for use on noncombustible construction as a component of:
	  • StoTherm® ci, StoPowerwall®, StoQuik® Silver, StoPanel®, and StoLite®. Refer to ICC-ESRs 1748, 2323, 2536, 4500, and 1233
	  • StoVentec® Ventilated Rainscreen wall systems. Refer to Intertek Design Listings Sto/CWP 30-01 and Sto/CWP 30-02, and Intertek CCRR-0454
	  • Code compliant concrete, concrete masonry, portland cement stucco, and other wall assemblies. Refer to ICC-ESR 1233.		

VOC Compliance	This product complies with US EPA (40 CFR 59) and South Coast AQMD (Rule 1113) VOC emission standards for Building Envelope Coating. VOC less than 50 g/L		
Results are based on lab testing under controlled conditions. Results can vary between labs or from field tests. *Based on tests performed with Sto joint treatment for sheathings and no air barrier top coat			

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