



Building with conscience.

Sto AirSeal®

Fluid-applied vapor permeable
air and water-resistive barrier

Facades



Together with StoGuard® Detail Components, Sto AirSeal® forms a StoGuard® air and water-resistive barrier system that offers building code compliance confirmed by ICC-ESR-1233. StoGuard® barrier systems featuring Sto AirSeal may be used in most code compliant wall assemblies including rainscreen claddings, stucco, masonry walls and StoTherm® EIFS.





Versatile performance conforming to substrate requirements...

Sto AirSeal is a water-based, vapor permeable, fluid-applied air and water-resistive barrier membrane that complies with IBC, IRC and IECC building code requirements, as outlined and confirmed in ICC-ESR-1233. It can be used on a wide range of substrates, behind most wall claddings.

The unique rheology of Sto AirSeal allows high thickness application to most substrates in one, two or three spray or roller coats. Sto AirSeal features 500% elongation and meets ASTM C1305 Low Temperature Crack Bridging requirements.

Fluid-applied membranes offer a number of important advantages. They are easily applied to complex wall geometries and form a direct chemical bond between membrane and substrate.

Once applied, fluid-applied membranes cannot be blown off the wall by high winds, and water cannot become trapped between the membrane and underlying substrate.

When installing a fluid-applied air and water-resistive barrier membrane, each substrate poses unique challenges. That's why Sto AirSeal installation instructions are specific to each commonly used substrate material.



Concrete masonry units (CMU) are rough and porous, and draw moisture out of water-based products, helping them dry quickly. High-build membranes are well suited to the rough CMU surface.



Oriented strandboard (OSB) and plywood share properties of both CMU and ASTM C1177 sheathing. Neither as smooth as gypsum sheathing nor as porous and moisture absorbent as CMU, on wood-based substrates thinner membranes provide fast drying. Weathered wood-based sheathing may require touch-up or a second application of Sto AirSeal to obtain a void and pinhole-free membrane.



ASTM C1177 gypsum sheathing is smooth and nonporous with limited moisture absorption. High membrane thickness can extend drying time. Already an air barrier material and much less prone to pinhole formation, gypsum sheathing can be effectively protected with a thinner, single coat Sto AirSeal membrane.





...is just the beginning

Sto AirSeal is part of a StoGuard air and water-resistive barrier system. No matter what substrates are involved, Sto AirSeal is seamlessly and flexibly tied together across substrate transitions, joints, and transitions to roof and below-grade air barriers with StoGuard Detail Components. Examples of StoGuard Detail Components includes Sto RapidGuard®, StoGuard Fabric and StoGuard Conformable Membrane.

On rough openings, StoGuard flashing solutions seamlessly integrate with Sto AirSeal. StoGuard provides several options for sealing penetrations and creating defined drainage planes to provide a pathway for egress of incidental moisture out of the wall.

Extra protection

Whether the substrate involved is cementitious, wood-based, gypsum or some combination of materials, it is flashings, penetrations, joints, and transitions that pose the greatest risk of air and water leakage.

That's why StoGuard Detail Components are typically installed first. Effective on their own, StoGuard Detail Components receive a compatible overcoat of Sto AirSeal, providing extra protection where it is needed most.



StoGuard Detail Components provide multiple options for effectively tying together a complete StoGuard air and water-resistive barrier system.

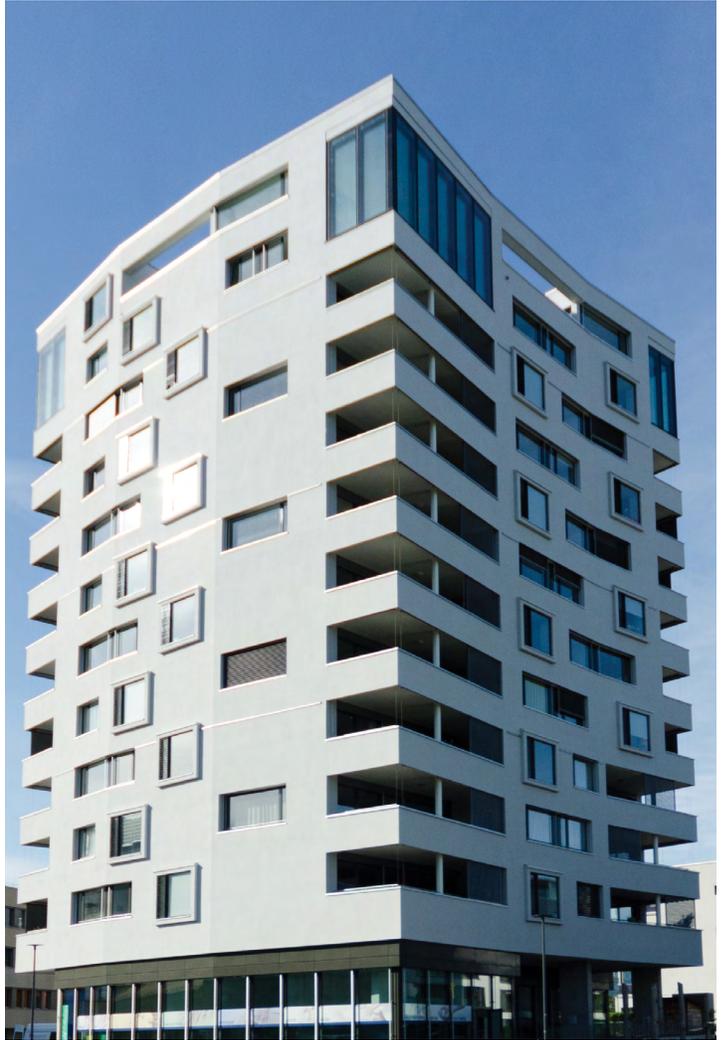
These photos show Sto RapidGuard® used to seal a rough opening (left) and a penetration (right). The center photo shows Sto Conformable Membrane bridging a gap between dissimilar substrates.



Three guide specification options, because one size doesn't fit all

In a world of compromise, Sto AirSeal provides options. Architects, General Contractors and Installers can come together on a specification that meets specific project needs. Installers can choose between one-coat and two-coat application. In many cases it is possible to install a void and pinhole-free medium-build or high-build Sto AirSeal membrane in one pass.

Some things cannot be compromised. All Sto AirSeal specifications are supported by the extensive third-party testing and proven real-world performance that Sto is famous for.



Sto AirSeal Benefits

- Apply with airless spray equipment or roller
- 500% elongation
- ASTM C1305 Low Temperature Crack Bridging
- Code compliant per ICC-ESR 1233 (Types I – IV construction)
- Vapor Permeable
- Resists mold growth
- Waterproof – minimizes risk of water damage
- Continuously bonded to substrates
- Low VOC (<50g/L)
- Compatible with all StoGuard products

Specification	ASTM C1177 Glass Mat Gypsum		Plywood		OSB		CMU		Poured Concrete and ASTM C1325 Cement Board	
	Coats	WFT	Coats	WFT	Coats	WFT	Coats	WFT	Coats	WFT
Substrate-Driven	1	20 mils	1	20 mils	1 or 2	20 mils	2 or 3	20-65 mils	1	20 mils
Medium-Build	1 or 2	40 mils	1 or 2	40 mils	1 or 2	40 mils	2 or 3	40-65 mils	1 or 2	40 mils
High-Build	1, 2 or 3	65 mils	1, 2 or 3	65 mils	1, 2 or 3	65 mils	2 or 3	65 mils	1, 2 or 3	65 mils

WFT - Wet Film Thickness
 Application with rollers may require extra coats to achieve design thickness.



Sto AirSeal Substrate-Driven guide specification

The Sto AirSeal Substrate-Driven specification requires medium-build on OSB sheathing and low-build on ASTM C1177 sheathing. Since normal-weight, medium-weight and light-weight CMUs have different levels of porosity, a range of application thicknesses is allowed, as long as installation creates a void and pinhole-free membrane.

Each substrate receives specific installation instructions. The end result is optimization of both the speed and efficiency of Sto AirSeal installation. Fast dry times minimize the effects of inclement weather. All critical areas receive extra protection from a layer of Sto AirSeal over StoGuard Detail Components.

The Substrate-Driven specification provides a proven way to efficiently install a Sto AirSeal based air and water-resistive barrier system that meets International Building Code water-resistive barrier (WRB) requirements outlined in the ICC-ES AC212 *Acceptance Criteria for Water-Resistive Coatings used as Water-Resistive Barriers over Exterior Sheathing*, and ASTM C1305 *Low Temperature Crack Bridging* test requirements.



StoGuard Detail Components receive a fully compatible overcoat of Sto AirSeal for extra protection where it is needed most.





Sto AirSeal Medium-Build guide specification

Given the critical nature of air and water-resistive barriers as it relates to building energy efficiency and long-term durability, design teams may wish to specify additional protection. For example, on 50-year or 100-year construction, the peace of mind that a thicker layer of Sto AirSeal provides may be well worth the modest extra cost.

The Sto AirSeal Medium-Build specification requires minimum 40-mil WFT on all substrates. Further, all flashings, penetrations, and joints that have been treated with StoGuard Detail Components receive a 40-mil WFT application of Sto AirSeal. That provides extra protection where it is needed most.



StoGuard Detail Components receive a fully compatible overcoat of Sto AirSeal for extra protection where it is needed most.





Sto AirSeal High-Build guide specification

For buildings intended for 100-year service lives, within open-joint rainscreen wall systems, or where the construction team intends to employ the most conservative design and construction practices, the Sto AirSeal High-Build specification may be appropriate.

This guide specification requires application of minimum 65-mil WFT thickness on all substrates. It provides maximum protection while retaining moisture vapor permeability and code-compliant fire performance. Flashing, penetrations and joints treated with StoGuard Detail Components receive 65-mils of extra Sto AirSeal protection.

The caveats to High-Build installation are somewhat extended dry times and modestly higher installed cost. In many cases, design teams will find these small compromises more than worthwhile.



Maximum protection everywhere





The foundation for creativity.

Inspiration favors the open mind. With Sto, your creative exploration can take you anywhere. Our proven products give you unmatched freedom and the ability to achieve your vision in any color, any form, any texture, any material.

Thanks to StoGuard, practical considerations aren't considerations at all during creative exploration. As essential as air and water-resistive barriers are to any wall, and even though they are mandated by most building codes, they do not factor into the aesthetic design process in the slightest. StoGuard systems are designed and qualified for use with all code-compliant wall systems. Better still, by combining StoGuard with the complete set of wall systems offered by Sto Corp., the air and water-resistive barrier is fully integrated into wall system design and engineering. The result is complete freedom of aesthetic design, one continuous StoGuard air and water-resistive barrier, and cladding transitions that are compatible by design.

Creativity Begins. **Sto Finishes.**®



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