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PL2023-174



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October 24, 2023

To: Aaron Yanez  
Vice President of Sales  
Total Team Construction

Project: Discount Tire  
8431 Lyndale Ave S  
Bloomington, MN 55420

Subject: Block/Brick

StoPowerwall ExtraSeal is a stucco wall assembly for direct application to concrete or concrete masonry (CMU) walls.

The existing brick would be an approved substrate for the application of StoPowerwall Extra Seal.

- General cleaning of the brick, remove dirt, airborne pollution, and algae.
- Apply Sto Dispersion adhesive wash as an adhesion inhibitor to increase bond strength.
- Apply StoPowerwall ExtraSeal Per Sto Specification and recommendation.

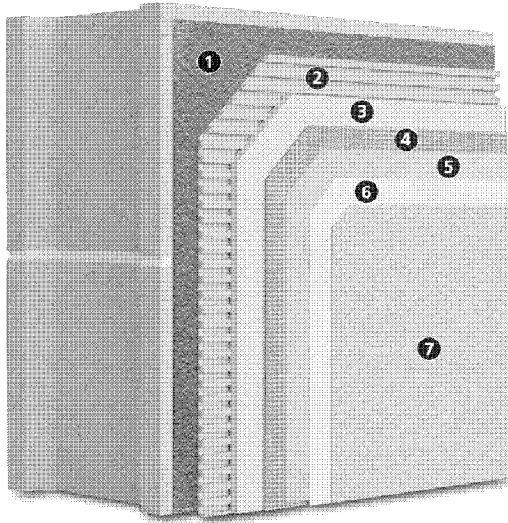
Thank you again for your time, please feel free to contact myself or the Sto Technical Department if you have any additional questions.

Jeff Sykes  
Field Service Manager

## System Bulletin

# StoPowerwall® ExtraSeal®

Portland cement stucco directly applied to concrete masonry with a StoGuard water-resistive air barrier system and Sto high-performance finishes



Substrate: Code compliant concrete masonry wall construction

- 1) Sto ExtraSeal skim coat
- 2) Sto ExtraSeal scratch coat
- 3) StoPowerwall stucco or any Sto listed ASTM C926 compliant stucco brown coat
- 4) & 5) Sto Crack Defense (optional): Sto Mesh Reinforcement embedded in Sto Base Coat
- 6) Sto Primer (optional)
- 7) Choose among:
  - Sto Textured Finishes
  - StoCast Finishes
  - Sto Signature and Sto Specialty Finishes

System Accessory: StoSeal STPE Sealant for use as an exterior weather seal around wall penetrations, at dynamic joints in wall construction, and as an interior air seal for air barrier continuity

### System Description

StoPowerwall ExtraSeal is a stucco wall assembly for direct application to concrete or concrete masonry (CMU) walls. It features a code-compliant StoGuard water-resistive air barrier system. This wall assembly combines the strength and durability of traditional stucco with StoGuard air and water protection and Sto high performance finishes.

### Uses

StoPowerwall ExtraSeal can be used in residential or commercial wall construction for superior aesthetics, durability, and air and moisture control.

### Features

Integrally colored factory blended textured finish, cast finish, or specialty finishes

Impact and puncture resistant

StoGuard water-resistive air barrier system

Optional Sto Crack Defense

### Benefits

Color and aesthetics offered with multiple finish looks increase curb appeal

Withstands abuse, reduced maintenance

Fully compatible, code-compliant water-resistive air barrier system

Resists stucco cracking

### Properties

Weight (stucco only) < 7 psf (34.2 kg/m<sup>2</sup>)

Stucco Assembly Thickness Nominal 5/8 inch (16 mm)

R-value (stucco only) 0.15 – 0.18 ft<sup>2</sup>•h•°F / Btu (0.026 – 0.031 m<sup>2</sup>•K / W)

Wind Load Resistance Equivalent to CMU wall construction

StoGuard water-resistive air barrier system code compliance with StoGuard Detail Components

- IBC and IRC (2018)
- ASHRAE 90.1-2019

Construction Types, Fire Resistance

- Suitable for types I – V construction
- ASTM E119 hourly-rated assemblies

### Warranty

10-year Limited Warranty when used with Sto Crack Defense

### Maintenance

Requires periodic cleaning to maintain appearance, repair of cracks and impact damage if they occur, recoating to enhance appearance of weathered finish. Sealants and other façade components must be maintained to prevent water infiltration.

## StoPowerwall® ExtraSeal®

Portland cement stucco directly applied to concrete masonry with a StoGuard water-resistive air barrier system and Sto high-performance finishes

### Limitations

Fire resistance rated assemblies based on CMU base wall assembly rating

Wind load resistance: equivalent to wind load capacity of CMU wall construction

Cracking can occur in Portland cement stucco. Cracking is generally not caused by a material defect in the stucco and can be minimized by following sound design and construction practices such as the proper installation of lath, the proper incorporation of stress relief joints in the construction, proper sand gradation for field mixed stucco, proper proportioning of stucco mix ingredients, use of the minimum amount of water in the stucco mix for placement of stucco, avoiding the use of excess water, moist curing of the stucco after it has been applied, and proper sequencing of construction to avoid stresses in the freshly placed stucco.

Efflorescence is a normal occurrence in portland cement-based products and can affect final appearance of finish products installed over stucco.

For use on vertical above grade walls only. Do not use below grade or on roofs or roof-like surfaces.

Dark or highly saturated finish colors may require added maintenance compared to light or pastel colors.

Air Barrier and base coat materials are not intended for prolonged weather exposure. Refer to component product bulletins for specific limitations involving exposure, use, handling, and storage of component materials.

For application to concrete substrates verify bond to the prepared substrate, as specified by the design professional, at minimum 28-day age of stucco assembly. Where the substrate is too smooth, dense, or non-absorbent for adhesion, install appropriate metal lath plaster base as specified by the design professional.

### Sustainable Design

#### Air Quality and VOC Compliance

All finish coatings, adhesives, air barrier joint treatments and coatings meet US EPA (40 CFR 59) and SCAQMD (Rule 1113) VOC standard for Building Envelope Coating: less than 50 g/L

#### LEED Credit Eligibility

- Energy and Atmosphere (EA)
- Materials and Resources (MR)
- Innovation in Design (IA)

#### Regulatory Compliance and Standards Testing

ICC ESR 2323, IAPMO ER 382	StoPowerwall Stucco complies with 2015 and 2018 IBC and IRC
ASTM E 2178 <sup>1</sup>	Sto ExtraSeal water-resistive air barrier complies with 2015 and 2018 IECC requirements as an air barrier material ( $\leq 0.004$ cfm/ft <sup>2</sup> at 0.3 inches water [0.02 L/s•m <sup>2</sup> ] air permeability) when used as directed
ASTM E 514 <sup>2</sup>	Sto ExtraSeal water-resistive air barrier resists water penetration for 4 hours
ASHRAE 90.1-2019 <sup>3</sup>	Air barrier complies with Building Envelope continuous air barrier requirements when used as directed
ASTM E 119 <sup>4</sup>	Meets requirements for hourly-rated assembly when installed over code compliant hourly-rated CMU base wall construction

1. Standard Test Method for Air Permeance of Building Materials
2. Standard Test Method for Water Penetration and Leakage Through Masonry
3. Energy Standard for Buildings Except Low-Rise Residential Buildings
4. Standard Test Methods for Fire Test of Building Construction and Materials

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**SB\_6500**  
Revision: 004  
Date: 05/2023

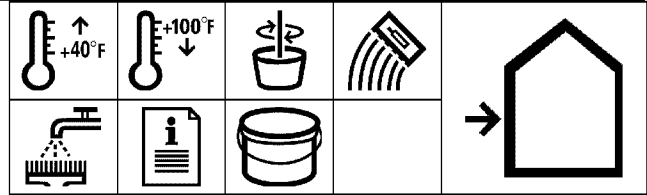
#### Attention

Sto products are 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. They 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 Sto products 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 EXPRESS 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](http://www.stocorp.com).

Product Bulletin

# Sto Dispersion Adhesive

80829 Dispersion Adhesive



REPORT	TEST METHOD	TEST CRITERIA	TEST RESULTS
<b>Adhesion (psi)</b>	ASTM C-297	28 days	> 10 Gypsum Sheathing* > 11 G-P Dens-Glass® Gold** > 25 3/8" plywood & OSB*
<b>Freeze/Thaw Resistance</b>	EIMA 101.01	No deterioration @ 60 cycles	Pass
<b>Surface Burning</b>	ASTM E-84	< 25 Flame Spread < 450 Smoke Developed	5 10
<b>VOC (g/L)</b>	This product complies with US EPA (40 CFR 59) and South Coast AQMD (Rule 1113) VOC emission standards for architectural coatings. VOC less than 50 g/L.		

\* Failure of substrate

\*\* Dens-Glass Gold is a registered trademark of the G-P Gypsum Corp.

Features	Benefits
<b>1 Ready-mixed</b>	Ready to use; no cement added at job site
<b>2 Flexible</b>	Bridges normal movement in wood sheathing
<b>3 100% Acrylic polymers</b>	Excellent adhesion; not brittle; retains flexibility
<b>4 Water-based</b>	Safe, non-toxic; cleans up with water
<b>5 Low VOC</b>	Meets South Coast Air Quality Management District Requirements

A ready-mixed acrylic-based adhesive used to attach Sto Insulation Board to prepared concrete, masonry or sheathing substrates in StoTherm® ci Systems. Use diluted as a bonding aid for low porosity substrates such as glass block and glazed tile and glazed masonry units.

## Coverage as an adhesive

350-385 ft² (32-36 m²) per pail, applied using a U-notched trowel with notches 3/16" wide x 3/8" high (5 mm x 9,5 mm), and notches spaced approximately 1-7/8" (47 mm) apart on center.

## Coverage as bonding agent

400-600 ft² (37-56 m²) per pail applied using a clean 1/2" nap roller

Coverage may vary depending on application technique and surface conditions.

## Packaging

5 gal. pail (19 L).

## Shelf Life

18 months, if properly stored and sealed.

## Storage

Protect from extreme heat [90°F (32°C)], freezing, and direct sunlight. After opening, Sto Dispersion Adhesive will keep for several weeks if properly stored and resealed.

## Sto Dispersion Adhesive

### Surface Preparation

Surfaces must be clean, dry, and free of frost, damage and all bond-inhibiting materials, including dirt, efflorescence, form oil and other foreign matter. Loose or damaged material must be removed by water blasting, sandblasting or mechanical wire brushing and repaired.

Avoid application over irregular surfaces.

Resurface, patch or level surfaces to required tolerance and smoothness with appropriate Sto leveling materials. Refer to ASTM D-4258 and ASTM D-4261 for complete details on methods of preparing cementitious substrates for coatings.

### Mixing

Mix with a clean, rust-free electric drill and paddle to a uniform consistency. Sto Dispersion Adhesive (when used as an adhesive) is applied full strength (no dilution).

When used as a bonding aid dilute Sto Dispersion with up to 10% clean water, by volume, and mix to a uniform consistency with an electric drill and rust free

### Application

**Adhesive Application:** Apply only to sound and clean, dry, properly prepared, frost-free surfaces.

Apply to the back of the insulation board with the appropriate size notched trowel. Form uniform ribbons of adhesive parallel to the short dimension of the board so the ribbons are oriented vertically when the insulation board is applied. Immediately install the board in horizontal rows with staggered joints and apply firm pressure over the board surface.

**Bonding Aid Application:** Apply 15 wet mil coat to substrate with a 1/2" nap roller and let dry. Verify desired adhesion results by field testing of a trial application installed using the proposed means and methods.

### Curing/Drying

Sto Dispersion Adhesive dries within 24 hours under normal conditions [70°F (21°C), 50% RH]. Drying time varies depending upon temperature/humidity and surface conditions. Allow additional drying time during cold or humid weather before application of primer and finish. For low absorption substrates, including surfaces protected with StoGuard™, substantially prolonged drying times should be anticipated.

Protect from rain, freezing and continuous high humidity until completely dry..

### Clean Up

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

### Limitations

- Use Sto Dispersion Adhesive only when surface and ambient temperatures are above 40°F (4°C) and below 100°F (38°C) during application and drying period.
- Sto Dispersion Adhesive is not recommended for use when cool damp conditions exist for prolonged periods.
- Cool damp conditions retard drying and may require extended periods of protection or delay in rasping insulation board surface.
- Do not use over pressure treated or fire retardant treated wood surfaces.
- Do not use on damp surfaces or on substrates with high moisture.

### Health And 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.

**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 for further health and safety information.

Safety Data Sheet (SDS) is available at [www.stocorp.com](http://www.stocorp.com)

#### LIMITED WARRANTY

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

Refer to Sto Specifications for more complete information on proper use and handling of this product.

**Sto Corp.**  
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[www.stocorp.com](http://www.stocorp.com)

**S155-80829**  
Revision Number: A4.0  
Date: 06/2016

#### 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](http://www.stocorp.com).