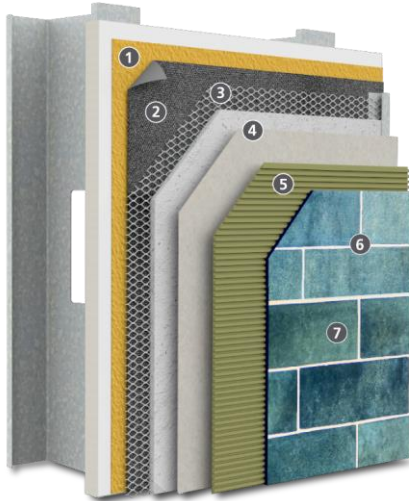


StoPowerwall® MVES

Masonry Veneer Engineered portland cement stucco wall system with StoGuard® continuous air and water-resistive barrier



Substrate: Glass Mat Gypsum sheathing in compliance with ASTM C1177, code compliant wood-based sheathing (plywood or OSB for Type V construction only), code compliant concrete, concrete masonry, existing structurally sound, uncoated brick or other masonry wall construction.

1)	Air and Water-resistive Barrier: StoGuard - Sto Sto Gold Coat®
2)	Water-resistive Barrier (WRB) / Slip Sheet: Code compliant paper or felt WRB
3)	Lath: code compliant minimum 2.5 lb/yd ² (1.4 kg/m ²) self-furred galvanized steel diamond mesh metal lath
4)	Stucco Scratch and Brown Coat: ASTM C926 compliant stucco (as furnished or listed by Sto Corp.)
5)	Masonry Veneer Adhesive: StoColl
6)	Masonry Veneer Grout: ANSI 118.7 compliant portland cement-based grout
7)	Masonry Veneer: thin brick, thin stone, ceramic tile, or manufactured stone in conformance with applicable building code requirements

System Description

StoPowerwall MVES is a portland cement stucco wall system with Adhered Masonry Veneer (AMV) – thin brick, natural stone, ceramic tile, or manufactured stone. It combines the strength and durability of portland cement stucco with Sto high strength masonry veneer adhesive, and the moisture protection of StoGuard air and water-resistive barriers.

Uses

StoPowerwall MVES can be used in residential or commercial wall construction where durability, superior aesthetics, and air and moisture control are essential in the climate extremes of North America.

Features

Variety of masonry veneers – brick, stone, tile – that integrate seamlessly with Sto finishes

Impact and puncture resistant cladding

Fire resistant wall design

Continuous air and water-resistive barrier

Fully tested, building code compliant wall assembly

Benefits

Design versatility on a single compatible substrate

Withstands abuse, reduced maintenance

Occupant safety

Impedes water penetration, helps reduce energy costs

Peace of mind

Properties

Weight (not including sheathing and frame)

< 30 lb/ft² (147 kg/m²) with 15 lb/ft² (73.2 kg/m²) masonry veneer

Assembly Thickness (from outside face of sheathing)

Nominal 1-5/8 inch (41 mm) with 5/8 inch (16mm) thick masonry veneer

R-value (from outside face of sheathing)

0.84 ft²•h•°F / Btu (0.148 m²•K / W)

Wind Load Resistance (varies with stiffness of stud wall construction and sheathing / lath attachment)

Capable of achieving DP of: +65, -48 lb/ft² (+3.11, -2.29 kPa)

Code Compliance: StoGuard ICC-ESR 1233

IBC, IRC, IECC (2015, 2018)

Construction Types and Fire Resistance

- All Construction Types (I – V)
- ASTM E119 hourly ratings

Warranty

10 year Limited Warranty

Maintenance

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

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Design Guidance and Limitations	
Fire resistance rated assemblies: refer to IBC and IRC for fire-resistance rated stucco wall assemblies. Also refer to ICC-ESR 2323 and IAPMO ER 382. StoPowerwall MVES does not detract from the hourly rating of listed assemblies.	
Wind load resistance: design for maximum allowable deflection of L/360, or stiffer when required by veneer manufacturer, local building code, or design professional. Maximum allowable stud spacing / minimum stud gauge: 16 inches (406mm) on center / 18 gauge. Capable of achieving design pressure of: +65, -48 lb/ft ² (+3.11 to -2.29 kPa). Ultimate wind load resistance depends on sheathing, sheathing attachment, lath attachment, and stiffness of supporting wall construction. Test assembly as needed to verify conformance with local code requirements.	
Moisture Control: design and detail air and water-resistive barrier as a continuous assembly, incorporate flashing and coping to shed water and prevent water entry into wall construction, select compatible wall assembly components at material interfaces and to seal penetrations. For more information refer to Sto Detail Booklet, and Sto Tech Hotlines: TH-0403-BSc, <i>Critical Detail Checklist for Wall Assemblies</i> , and TH 0603-BSc, <i>Moisture Control Principles for Design and Construction of Wall Assemblies</i> .	
In moist and marine climate zones, and where required by the applicable building code, a ¼ or 3/8 inch (6 or 10mm) drainage cavity provides added moisture protection. Refer to StoPowerwall DrainScreen MVES for more information.	
For use on vertical above grade walls only, up to 6-stories or 72 ft (22m) in height, whichever is less, except for manufactured stone and natural stone. Refer to Sto Tech Hotline No. 0821-M, <i>Quick Reference Guide on Adhered Masonry Veneers in Exterior Wall Construction</i> , for additional information.	
Not for use below grade, sloped or horizontal surfaces, or on roofs or roof-like surfaces. Refer to Sto Detail Booklet.	
Joints: provide expansion joints where they exists in the supporting wall construction, at control joints or cold joints in the supporting wall construction, at changes in support construction (e.g., masonry to frame wall), at junctures with dissimilar construction, at different substrates, at floor and ceiling lines in multi-story wall construction, at changes in building height and other areas of stress concentration, and within areas of not greater than 144 ft ² (13.4m ²) with length or height not more than 12 ft (3.6m) for ceramic tile, and not more than 18 ft (5.5m) for brick or stone, with length/height or height/length ratio not greater than 2-1/2 to 1. Dark colored veneer units may require closer spacing due to increased thermal movement. Consult with design professional. Do not bridge expansion joints, control joints, or cold joints in wall construction with adhered masonry veneer. Refer to Sto Detail Booklet.	
Mortar Joints: must be grouted except where permitted for manufactured stone (refer to Sto Tech Hotline No. 0821-M, <i>Quick Reference Guide on Adhered Masonry Veneers in Exterior Wall Construction</i>)	
Adhered masonry veneer units are limited in thickness, size and weight by the IBC and IRC. Refer to Sto Tech Hotline No. 0821-M, <i>Quick Reference Guide on Adhered Masonry Veneers in Exterior Wall Construction</i> .	
Efflorescence is a normal occurrence in portland cement-based materials and can affect final appearance of finish products. To minimize risk of efflorescence follow best construction practices to prevent water entry into walls through proper design detailing, and the proper use of flashing, copings, and sealant. Refer to Sto Detail booklet.	
Air and water-resistive barrier materials are not intended for prolonged weather exposure. Allow 180 days maximum between application of air and water-resistive barrier and other wall system components. Refer to specific component product bulletins and packaging for other limitations that may apply involving use, handling and storage of component materials.	
Sustainable Design	
Air Quality and VOC Compliance	
Adhesive, air barrier joint treatments and coatings meet SCAQMD (Rule 1113) VOC standard for Building Envelope Coating: less than 50 g/L	
LEED Credit Eligibility	
System has high potential for LEED and other sustainability program credits based on use of continuous air and water-resistive barrier and VOC compliance	
Regulatory Compliance and Standards Testing	
ICC ESR No. 1233	Sto Gold Coat AMB complies with 2015, 2018 IBC, IRC and IECC
ICC ERS 2323, IAPMO ER 308	See listings for fire and wind load rated assemblies
ASTM E2178, E2357	StoGuard with Sto Gold Coat air and water-resistive barrier meets air leakage requirements as a material and as an assembly with StoGuard Detail Components
ASTM C926	StoPowerwall Stucco and Sto listed stucco products conform with prescriptive mix ratios of ASTM C926
ASHRAE 90.1-2016	System complies with Section 5, Building Envelope, air barrier requirements
ASTM E 119	System meets requirements for hourly ratings over listed fire-resistance-rated wall assemblies

Sto Corp. 3800 Camp Creek Parkway Building 1400, Suite 120 Atlanta, GA 30331 Tel: 404-346-3666 Toll Free: 1-800-221-2397 Fax: 404 346-3119 www.stocorp.com	SB-6650 Revision: 002 Date: 08/2022	<p style="text-align: center;">Attention</p> <p>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.</p>
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