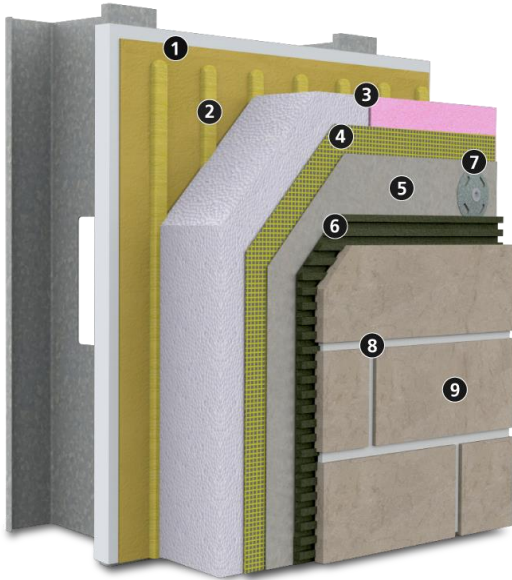


# StoTherm® ci MVES

Masonry Veneer Engineered System with continuous insulation, and continuous air and water-resistive barrier



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

1)	Air & Water-Resistive Barrier: Sto Gold Coat®
2)	Insulation Adhesive: Sto TurboStick®
3)	Insulation: choose among, <ul style="list-style-type: none"> <li>• EPS: Sto EPS Insulation Board</li> <li>• XPS Insulation Board:                     <ul style="list-style-type: none"> <li>• Owens Corning Foamular® CI-C or NGX™ CI-C</li> <li>• Dupont™ Styrofoam™ Brand Panel Core ST-100</li> </ul> </li> </ul>
4)	Reinforcement: Sto Mesh 6 oz
5)	Base Coat: Sto Primer/Adhesive
6)	Masonry Veneer Adhesive: StoColl
7)	Fastener: corrosion resistant fastener and washer
8)	Masonry Veneer Grout: ANSI 118.7 compliant portland cement-based grout
9)	Masonry Veneer: thin brick, thin natural stone, ceramic tile, or manufactured stone in conformance with applicable building code requirements

System Description	
StoTherm ci MVES is an engineered wall system with Adhered Masonry Veneer (AMV) – thin brick, natural stone, ceramic tile, or manufactured stone. It combines superior air and weather tightness with excellent thermal performance and durability. It incorporates continuous exterior insulation and a continuous air and water-resistive barrier with Sto high strength masonry veneer adhesive.	
Uses	
StoTherm ci MVES can be used in residential or commercial wall construction where energy efficiency, superior aesthetics, and air and moisture control are essential in the climate extremes of North America.	
Features	Benefits
Variety of masonry veneers that integrate seamlessly with Sto finishes	Design versatility on a single compatible substrate
Continuous exterior insulation	Energy efficient, reduced heating and cooling costs
Fire resistant wall design	Occupant safety
Lightweight	Reduced structural costs (compared to full thickness masonry veneer assemblies)
Continuous air and water-resistive barrier	Impedes water penetration, helps reduce energy costs
Fully tested, building code compliant	Peace of mind
Properties	
Weight (not including sheathing and frame)	< 21 lb/ft <sup>2</sup> (103 kg/m <sup>2</sup> ) with 15 lb./ft <sup>2</sup> (73.2 kg/m <sup>2</sup> ) thin veneer
Thickness (insulation)	1-4 inches (25-102mm)
R-value (not including sheathing and frame)	EPS: 3.6 – 14.4 ft <sup>2</sup> •h•°F / Btu (0.63 – 2.53 m <sup>2</sup> •K / W)
EPS: 1-4in (25-102mm)	XPS: 5 – 15 ft <sup>2</sup> •h•°F / Btu (0.88 – 2.64 m <sup>2</sup> •K / W)
XPS: 1-3in (25-76mm)	
Wind Load Resistance (varies with stiffness of stud wall construction, sheathing attachment)	Capable of achieving DP of +73, -56 lb/ft <sup>2</sup> (+3.49, -2.68 kPa)
Code Compliance: Complies with IBC IRC, and IECC 2015, 2018, 2021	See ICC ES Evaluation Reports: StoGuard: ICC ESR-1233 StoTherm ci MVES: ICC ESR-1748
Construction Types and Fire Resistance	<ul style="list-style-type: none"> <li>• NFPA 285: for Types I – IV construction</li> <li>• ASTM E119: 1-hour rated assemblies</li> </ul>
Warranty	
12-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.	

# StoTherm® ci MVES

Masonry Veneer Engineered System with adhered masonry veneer, continuous insulation and continuous air and water-resistive barrier

Design Guidance and Limitations
Fire resistance: 1-hour load bearing and non-load bearing fire rating over steel frame wall construction with maximum 4-in (102mm) thick insulation board, subject to thickness restrictions when used on buildings required to be of noncombustible construction (see below)
Use on noncombustible construction (Types I, II, III, and IV): can be installed on buildings of any height with maximum 4-in (102mm) Sto EPS Insulation Board, maximum 3-in (76mm) Owens Corning Foamular CI-C XPS or NGX CI-C insulation board, or maximum 2-in (51mm) Dupont Styrofoam Brand Panel Core ST-100 XPS insulation board
Minimum insulation board thickness: 1 inch (25 mm). Maximum insulation board thickness: 4 inches (102mm), subject to restrictions based on fire tests (see above).
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 pressures of: + 73, -56 lb/ft <sup>2</sup> (+3.49, -2.68 kPa), depending on veneer, sheathing, sheathing attachment, and stiffness of supporting wall construction (Refer to ICC ESR-1748).
Moisture Control: drainable wall assembly. 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 Design Guide and 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> .
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, which have stricter height limitations. 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 Details.
Joints: provide expansion joints where they exist 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 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 <sup>2</sup> (13.4m <sup>2</sup> ) with length or height not exceeding 12 ft (3.6m) for ceramic tile, and not more than 18 ft (5.5m) for brick or stone, and 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 Details.
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> )
Dark brick, stone, and ceramic tile colors with LRV (Light Reflectance Value) < 20 are not recommended unless analyzed by the design professional with regard to temperature exposure of EPS/XPS insulation (limited to maximum service temperature of 165°F (73.9°C)).
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 Details
Insulation materials are flammable. Keep away from flame, ignition sources, high heat and temperatures in excess of 165°F [73.9° C]).
Air Barrier, insulation board, and base coat materials are not intended for prolonged weather exposure. Allow 180 days maximum between application of air and water-resistive barrier and insulation board. Refer to specific component product bulletins and packaging for other limitations that may apply involving use, handling and storage of component materials.

# StoTherm® ci MVES

Masonry Veneer Engineered System with continuous insulation, and continuous air and water-resistive barrier

Sustainable Design	
Air Quality and VOC Compliance	
Adhesive mortar, air barrier joint treatments and coatings meet South Coast AQMD (Rule 1113) VOC standard for Building Envelope Coating: less than 50 g/L.	
LEED Credit Eligibility	
The system has high potential for LEED and other sustainability program credits based on efficient and effective use of a continuous air barrier and continuous exterior insulation for energy savings and resulting reductions in greenhouse gas emissions, and through the use of light gauge metal framing with recycled content. The system also has potential positive impacts on life cycle energy use based on reduced dead load, permitting the use of lighter gauge metal studs, and supporting structural members and foundation footings, when compared to full thickness/weight masonry units. Insulation boards are available with reduced HFC blowing agent and GWP, depending on State regulatory requirements. Refer to <a href="#">Owens-Corning</a> or <a href="#">Dupont</a> for more information.	
Regulatory Compliance and Standards Testing	
NFPA 285, ASTM E119	System meets acceptance criteria for use on noncombustible construction and requirements for 1-hour fire resistance rating over load-bearing and non-load bearing steel frame wall assembly (see above for insulation thickness limits).
ICC ESR-1233	Sto Gold Coat air and water-resistive barrier complies with 2015, 2018, and 2021 IBC, IRC, IECC.
ASTM E2178, E2357	Sto Gold Coat air and water-resistive barrier meets air leakage requirements as a material and as an assembly.
ICC ESR-1748	System complies with performance and weather resistance requirements of 2015, 2018, and 2021 IBC and IRC.
ASHRAE 90.1-2019	System complies with Section 5, Building Envelope, air barrier and continuous insulation requirements (subject to limits on insulation thickness)

For complete information refer to [www.stocorp.com](http://www.stocorp.com)

<b>Sto Corp.</b> 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 <a href="http://www.stocorp.com">www.stocorp.com</a>	<b>SB-5700</b> Revision: 004 Date: 11/2022	<p style="text-align: center;"><b>Attention</b></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. <b>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.</b> 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, <a href="http://www.stocorp.com">www.stocorp.com</a>.</p>
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