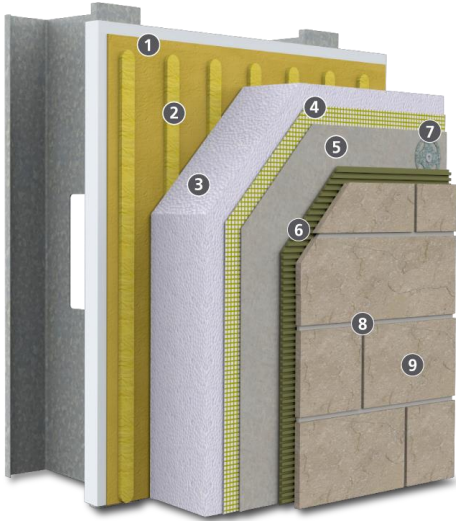


# StoTherm® ci MVES

Masonry Veneer Engineered System with continuous insulation, and continuous air/moisture 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 and Moisture Barrier: Sto Gold Coat   |
| 2) | Insulation Adhesive: Sto TurboStick™  |
| 3) | Insulation: Sto EPS Insulation Board  |
| 4) | Reinforcement: Sto Mesh 6 oz  |
| 5) | Base Coat: Sto Primer/Adhesive  |
| 6) | Masonry Veneer Adhesive: StoColl KM   |
| 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 stone, ceramic tile, or cultured 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 cultured stone. It combines superior air and weather tightness with excellent thermal performance and durability. It incorporates continuous exterior insulation and a continuous air/moisture 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 of masonry veneer assemblies) |
| Continuous air and moisture barrier                                    | Impedes water penetration, helps reduce energy costs                               |
| Fully tested, building code compliant                                  | Peace of mind  |

## Properties

|  |   |
|--|---|
| Weight (not including sheathing and frame)   | < 15 lb/ft <sup>2</sup> (73.2 kg/m <sup>2</sup> ) with 9 lb./ft <sup>2</sup> (43.9 kg/m <sup>2</sup> ) thin veneer                    |
| Thickness (insulation)   | 1-4 inches (25-102mm)   |
| R-value 1-4in (25-102mm) (not including sheathing and frame)                                 | 3.6 – 14.4 ft <sup>2</sup> •h•°F / Btu (0.63 – 2.53 m <sup>2</sup> •K / W)  |
| Wind Load Resistance (varies with stiffness of stud wall construction, sheathing attachment) | Capable of achieving DP of +50, -40 lb/ft <sup>2</sup> (+2.39, -1.91 kPa)   |
| Code Compliance<br>StoGuard: ICC-ESR 1233  | <ul style="list-style-type: none"> <li>IBC, IRC, IECC 2012, 2015, 2018</li> <li>ASHRAE 90.1-2016</li> </ul>                           |
| 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 continuous insulation, and continuous air/moisture barrier

| Design Guidance and Limitations   |   |
|---|---|
| Fire resistance: 1-hour load bearing and non-load bearing fire rating over steel frame wall construction. Refer to Sto Detail Booklet.  |   |
| 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: + 50, -40 lb/ft <sup>2</sup> (+2.39, -1.91 kPa). Ultimate wind load resistance depends on sheathing, sheathing attachment, and stiffness of supporting wall construction.  |   |
| Moisture Control: design and detail air/moisture 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 4-stories or 50 ft (15.2m) in height, whichever is less.  |   |
| 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 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, 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 / pointed. Open joints are not permitted.  |   |
| Minimum insulation board thickness: 1 inch (25 mm). Maximum insulation board thickness: 4 inches (102mm).   |   |
| 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 insulation (limited to maximum service temperature of 165°F (73.8°C).  |   |
| Adhered masonry veneer units are limited in thickness, size and weight by the IBC and IRC: Maximum thickness: 5/8 inch (16mm) <sup>1</sup> , Maximum allowable weight: 9 lb/ft <sup>2</sup> (43.9 kg/m <sup>2</sup> ), Maximum size: not to exceed 24 inches (610mm) in any face dimension and not in excess of 3 ft <sup>2</sup> (0.28m <sup>2</sup> ).  |   |
| 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.   |   |
| Insulation material is flammable. Keep away from flame, ignition sources, high heat and temperatures in excess of 165°F (74.8° C).  |   |
| Air Barrier, insulation board, and base coat materials are not intended for prolonged weather exposure. Allow 180 days maximum between application of air/moisture 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.   |   |
| Note 1: Thicker units permitted if dimensioned for application by the thin set method (consult with veneer unit manufacturer).  |   |
| Sustainable Design  |   |
| Air Quality and VOC Compliance  |   |
| Adhesive mortar, air barrier joint treatments and coatings meet SCAQMD (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.  |   |
| Regulatory Compliance and Standards Testing   |   |
| ICC ESR No. 1233  | Sto Gold Coat air and moisture barrier complies with 2012, 2015, and 2018 IBC, IRC and IECC.                  |
| ASHRAE 90.1-2016  | System complies with Section 5, Building Envelope, air barrier and continuous insulation.                     |
| ASTM E2178, E2357   | Sto Gold Coat air and moisture barriers meets air leakage requirements as a material and as an assembly.      |
| NFPA 285  | System meets criteria for use on noncombustible construction with maximum 4in (102mm) Sto EPS Insulation.     |
| ASTM E119   | System meets requirements for 1-hour rating over load-bearing and non-load bearing steel frame wall assembly. |

|   |  |  |
|---|--|--|
| <b>Sto Corp.</b><br>3800 Camp Creek Parkway<br>Building 1400, Suite 120<br>Atlanta, GA 30331<br><br>Tel: 404-346-3666<br>Toll Free: 1-800-221-2397<br>Fax: 404 346-3119<br><a href="http://www.stocorp.com">www.stocorp.com</a> | <b>SB-5700</b><br>Revision: 000<br>Date: 11/2020 | <b>Attention</b><br>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> . |
|---|--|--|