

**GRAND AVENUE CLUB**  
210 E. MICHIGAN STREET  
Milwaukee, Wisconsin

In 2017, a contractor installed EIFS onto the north facing wall on the west side of the Grand Avenue Club Building. The purpose of the installation was twofold.

First, the EIFS was installed to try to prevent future water penetration into the existing masonry wall which had been leaking into the interior space for decades. The subject's exterior masonry wall was originally a common brick veneer and was most likely a 3-4 wythe thick wall. At some point in history, a stucco finish was added to approximately 80% of the wall in order to prevent further moisture penetration. The moisture was not only affecting the condition of the exterior masonry ( such as freeze/thaw damage, drainage erosion of the masonry, etc.) but also damaging interior finishes within the Club. On several occasions over the past 25 years, Spray-O-Bond was tasked with the job of applying more cementitious material to the stucco' d areas to try and prevent further moisture penetration into the assemblage. Not only was that program unsuccessful, but it exacerbated the situation. In some areas where loose stucco was required to be removed for safety purposes, the delaminating stucco's adhesion to the brick masonry caused the delamination to remove large sections of the brick's face with it. The cycle repeated several times in that timeframe.

The second reason that the STO Corp EIFS product was applied was to mimic the stucco finish and keep the building's appearance wholly the same. The product that has been applied is the **StoTherm ci Classic** (literature included herein) and the product's finish coat was colored to match the existing wall. The result is a waterproofed (and better insulated wall) at a reasonable price for the Grand Avenue Club. Pictures of before and after the restoration and product literature are included herein.





# StoTherm® ci Classic

Decorative cladding with continuous insulation and continuous air/moisture barrier for heat, air and moisture control



Substrate: Glass Mat Gypsum sheathing in compliance with ASTM C 1177, Exterior or Exposure I wood-based sheathing (plywood or OSB), code compliant concrete, concrete masonry or portland cement plaster, existing structurally sound, uncoated brick or other masonry wall construction.

1)	StoGuard® Air and Moisture Barrier
2)	Three adhesive options: Sto TurboStick™, Sto BTS® Plus, or Sto BTS Xtra
3)	Sto EPS Insulation Board
4)	Sto Mesh (embedded in Sto base coat)
5)	Three base coat options: Sto BTS Plus, Sto BTS Xtra, or Sto RFP
6)	StoPrime Sand (optional)
7)	Sto Textured Finish: Stolit® or Stolit® X

## System Description

StoTherm ci Classic is a decorative and protective exterior wall cladding that 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's high performance finishes in a fully tested wall cladding assembly.

## Uses

StoTherm ci Classic 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

Features	Benefits
<b>Design versatility</b>	Aesthetic and curb appeal easy to achieve
<b>Continuous exterior insulation, no mechanical fasteners</b>	Energy efficient, reduced heating and cooling costs
<b>Lightweight</b>	Reduced structural costs
<b>Continuous air and moisture barrier</b>	Protects against mold and moisture problems
<b>ICC-ES listed and evaluated</b>	Fully tested building code compliant assembly

## Properties

<b>Weight (not including sheathing and frame)</b>	< 2 psf (10 kg/m <sup>2</sup> )
<b>Thickness (insulation)</b>	1 to 12 inches (25 – 305 mm)
<b>R-value (not including sheathing and frame)</b>	3.6 – 43.2 ft <sup>2</sup> ·h·°F / Btu (0.63 – 7.60 m <sup>2</sup> ·K / W)
<b>Wind Load Resistance</b>	Tested up to + 188 psf (9.00 kPa)
<b>Compliance</b>	<ul style="list-style-type: none"> <li>IBC and IRC (2006, 2009, 2012)</li> <li>ASHRAE 90.1-2010</li> </ul>
<b>Construction Types and Fire Resistance</b>	<ul style="list-style-type: none"> <li>I-V, NFPA 285 tested for types I-IV</li> <li>ASTM E 119 tested for 1&amp;2 hour walls</li> </ul>

## Warranty

### 12 year Limited Warranty

## Maintenance

Requires periodic cleaning to maintain appearance, repair to 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.

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Precautions and Limitations	
Minimum insulation board thickness 1 inch (25 mm). Maximum insulation board thickness 12 inches (305 mm).	
Fire resistance rated assemblies limited to 4 inch (102 mm) maximum insulation board thickness and non-load bearing steel frame.	
Structural back-up wall must be level to within ¼ inch in 10 ft (6mm in 3.0)	
Wind load resistance: ± 188 psf (9.00 kPa) ultimate loads achieved. Ultimate wind load resistance also depends on sheathing, sheathing attachment, and stiffness of supporting construction. Design for maximum allowable deflection of L/240.	
Impact resistance: supplemental reinforcing mesh layers, cement board overlay or other design adjustments may be prudent for areas adjacent to heavy pedestrian traffic or other areas of high impact or abuse. Refer to Sto Guide Details.	
For use on vertical above grade walls only. Do not use below grade or on roofs or roof-like surfaces.	
Insulation material is flammable. Keep away from flame, ignition sources, high heat and temperatures in excess of 165°F [74° C]).	
Dark finish colors with LRV (Light Reflectance Value) < 20 are not recommended.	
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.	
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) emission standards for architectural coatings.	
LEED Credit Eligibility	
System has high potential for LEED and other sustainability program credits based on efficient and effective use of continuous exterior insulation and resulting reductions in greenhouse gas emissions.	
Regulatory Compliance and Standards Testing	
<b>ICC ESR No. 1748 covering StoTherm NExt Systems</b>	Complies with 2009, 2012, 2015 IBC and IRC
<b>ICC ESR No. 1233 covering StoGuard Air &amp; Moisture Barrier</b>	Complies with 2009, 2012, 2015 IBC, IRC and IECC
<b>ASHRAE 90.1-2016<sup>1</sup></b>	Complies with Section 5, Building Envelope, air barrier and continuous insulation requirements
<b>ASTM E 2357<sup>2</sup></b>	Air/Moisture barrier meets air leakage resistance criteria of $\leq 0.04$ cfm/ft <sup>2</sup> at 1.57 psf (0.2 L/s•m <sup>2</sup> at 75 Pa)
<b>NFPA 285<sup>3</sup></b>	Meets flame propagation criteria for use on Types I, II, III, IV construction with up to 12 inches (305 mm) of Sto EPS insulation board
<b>ASTM E 119<sup>4</sup></b>	Meets requirements for 1 or 2 hour rating over non load-bearing fire-resistance-rated steel frame construction, does not change the rating over selected combustible exterior fire-resistance-rated assemblies (refer to ICC ESR 1748)

1. Energy Standard for Buildings Except Low-Rise Residential Buildings
2. Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
3. Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components
4. Standard Test Methods for Fire Test of Building Construction and Materials

<p><b>Sto Corp.</b> 3800 Camp Creek Parkway Building 1400, Suite 120 Atlanta, GA 30331</p> <p>Tel: 404-346-3666 Toll Free: 1-800-221-2397 Fax: 404 346-3119</p> <p><b>www.stocorp.com</b></p>	<p><b>SB-A100G</b> Revision: 003 Date: 11/2019</p>	<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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