

StoTherm® ci XPS Essence

Decorative cladding with continuous insulation and StoGuard® Air and Water-resistive 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 Water-resistive Barrier

2) Adhesive: Sto TurboStick®

3) Foamular® CI-C or Dow STYROFOAM™ Panel Core 20 Insulation Board

4) Sto Mesh (embedded in Sto base coat)

5) Base Coat: Sto BTS® Xtra

6) StoPrime Sand (optional)

7) Sto Textured Finish: Sto Essence DPR
Sto Custom Cast Finish: StoCast Wood or StoCast Brick

System Description

StoTherm ci XPS Essence 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 StoGuard Air and Water-resistive Barrier with Sto's high performance finishes in a fully tested wall cladding assembly.

Uses

StoTherm ci XPS Essence 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. The superior compressive strength and low water absorption of XPS insulation make it appropriate for institutional, military, or other construction where increased durability is desired.

Features

Design versatility

Continuous XPS insulation, R-5 per inch

Quick set adhesive, no mechanical fasteners

Continuous air and moisture barrier

ICC-ES listed and evaluated

Benefits

Aesthetic and curb appeal easy to achieve

Energy efficient, reduced heating and cooling costs, thinner walls

Fast installation, no thermal bridging

Protects against mold and moisture problems

Fully tested building code compliant assembly

Properties

Weight (not including sheathing and frame)

< 2 psf (10 kg/m²)

Thickness (insulation)

1 to 6 inches (25 – 152 mm)

R-value (not including sheathing and frame)

5.0 – 30 ft²•h•°F / Btu (0.88 – 5.28 m²•K / W)

Wind Load Resistance

Tested up to ± 175 psf (8.37kPa)

Compliance

- IBC and IRC (2012, 2015, 2018)
- ASHRAE 90.1-2019

Construction Types and Fire Resistance

- I-V, NFPA 285 tested for types I-IV

Warranty

10 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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Limitations

Minimum insulation board thickness 1 inch (25 mm). Maximum insulation board thickness 6 inches (152mm), 2-1/2 inches (64mm) if Sto Custom Cast Finishes are used on Types I-IV (Noncombustible) construction.

Fire resistance rated assemblies limited to 2-1/2 inch (64 mm) maximum insulation board thickness

Structural back-up wall must be level to ¼ inch in 10 ft (6mm in 3.0m)

Wind load resistance: ± 175 psf (8.37 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.

Sustainability

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

ICC ESR No. 1748 covering StoTherm ci Systems	Complies with 2012, 2015, and 2018 IBC, IRC and IECC
ICC ESR No. 1233 covering StoGuard Air & Moisture Barrier	Complies with 2012, 2015, and 2018 IBC, IRC and IECC
ASHRAE 90.1-2019¹	Complies with Section 5, Building Envelope, air barrier and continuous insulation requirements
ASTM E 2357²	StoGuard Air and Water-resistive Barrier meets air leakage resistance criteria of ≤ 0.04 cfm/ft ² at 1.57 psf (0.2 L/s•m ² at 75 Pa)
NFPA 285³	Meets flame propagation criteria for use on Types I, II, III, IV construction with up to 6 inches (153 mm) of Foamular® CI-C or Dow STYROFOAM™ Panel Core 20 insulation board, 2-1/2 inches (64mm) for Sto Custom Cast Finishes
ASTM E 119⁴	Meets requirements for use over fire-resistance-rated wall assemblies with up to 2-1/2 inches of Foamular® CI-C or Dow STYROFOAM™ Panel Core 20 insulation board.

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

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-E100X Revision: 006 Date: 8/2022	<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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