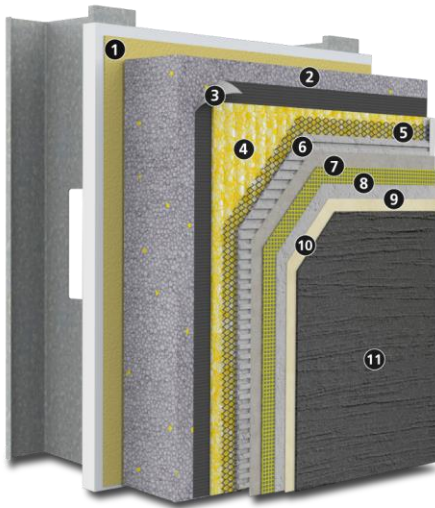


# StoPowerwall® ci

Portland cement stucco with continuous air and water-resistive barrier, continuous insulation, advanced cavity wall design, and high-performance finishes



Substrate: Glass mat gypsum sheathing in compliance with ASTM C1177, Exterior or Exposure 1 wood-based sheathing (plywood or OSB), code compliant concrete or concrete masonry wall construction.

- 1)** Air and Water-Resistive Barrier (AWRB), choose among:
  - Sto Gold Coat®
  - Sto AirSeal®
  - StoGuard® VaporSeal®
- 2)** Continuous Insulation, choose among:
  - GPS: Sto GPS Board - Graphite Enhanced Polystyrene (GPS) Type I rigid insulation board in compliance with ASTM C578, Type 1
  - XPS: DuPont™ Styrofoam™ Brand ST-100 - Extruded Polystyrene (XPS) rigid insulation board in compliance with ASTM C578, Type IV
- 3)** WRB: Code compliant paper or felt Water-Resistive Barrier
- 4)** Drainage Mat: Sto DrainScreen®
- 5)** Metal Plaster Base: Code compliant minimum 2.5 lb/yd<sup>2</sup> (1.4 kg/m<sup>2</sup>) self-furred galvanized steel diamond mesh metal lath
- 6)** Stucco: portland cement stucco scratch and brown coat in compliance with ASTM C926 (as furnished or listed by Sto Corp.)
- 7), 8)** Sto Crack Defense (optional): Sto Mesh embedded in Sto Base Coat
- 10)** Sto primer (optional)
- 11)** Finish, choose among:
  - Sto Textured Finishes
  - StoCast Finishes
  - Sto Signature Series or Sto Specialty Finishes

System Accessory: StoSeal STPE Sealant for use as an exterior weather seal around wall penetrations, at dynamic joints in wall construction, and as an interior air seal for air barrier continuity

## System Description

StoPowerwall ci is an energy efficient stucco wall assembly with a continuous air and water-resistive barrier (AWRB) and continuous insulation. It combines the strength and durability of traditional stucco with an advanced cavity wall design and Sto high-performance finishes in a fully tested wall cladding assembly.

## Uses

StoPowerwall ci 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 the Americas

## Features

## Benefits

Integrally colored factory produced finishes	Consistent color and aesthetics increase curb appeal
Continuous exterior insulation	Energy efficient, reduced heating and cooling costs
Impact and puncture resistant	Withstands abuse, reduced maintenance
Continuous air and water-resistive barrier	Protects against mold and moisture problems
Fully tested, building code compliant	Peace of mind

## Properties

Weight (excluding sheathing / studs)	< 12 psf (56.6 kg/m <sup>2</sup> )
Assembly Thickness (from exterior stud face)	Nominal 3-5/8" (92 mm) with 2" (51 mm) Sto GPS Board
R-value (insulation only)	5 – 10 ft <sup>2</sup> •h•°F / Btu (0.88 – 1.76 m <sup>2</sup> •K / W)
Wind Load Resistance	Capable of achieving: +65, -48 psf (+3.11 to -2.29 kPa)
Compliance	<ul style="list-style-type: none"> <li>• 2018 and 2021 IBC, IRC, and IECC</li> <li>• ASHRAE 90.1-2019</li> </ul>
Construction Types, Fire Resistance	<ul style="list-style-type: none"> <li>• NFPA 285 tested for use on noncombustible construction</li> <li>• ASTM E119 1-hour rated wall construction</li> </ul>

## Warranty

Up to 15-year Limited Warranty available on Sto products, depending on options selected.

## Maintenance

Requires periodic cleaning to maintain appearance, repair of 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: 2-1/8-inches (54 mm). Minimum stucco thickness: 3/4-inch (19 mm). Maximum stucco thickness: 7/8-inch (22 mm)
Noncombustible construction (Types I, II, III, and IV) and fire-resistance-rated assemblies limited to 2-1/8-inch (54 mm) maximum insulation board thickness.
Wind load resistance: +65, -48 lb/ft <sup>2</sup> (+3.11, -2.29 kPa) ultimate loads achieved. Ultimate wind load resistance also depends on sheathing, sheathing attachment, stiffness of supporting construction, and strength characteristics of stucco mix. Test assembly if necessary to verify wind load resistance is in conformance with local code requirements. Design for maximum allowable deflection of L/360.
Cracking can occur in portland cement stucco. Cracking is generally not caused by a material defect in the stucco and can be minimized by following sound design and construction practices such as: proper installation of lath, proper incorporation of stress relief joints in the construction, proper sand gradation for field mixed stucco, proper proportioning of stucco mix ingredients, use of the minimum amount of water in the stucco mix for placement of stucco, avoiding the use of excess water, moist curing of the stucco after it has been applied, and proper sequencing of construction to avoid stresses in the freshly placed stucco.
Efflorescence is a normal occurrence in portland cement-based products and can affect final appearance of finish products.
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, and high heat (temperatures in excess of 165°F [74° C]). A 15-minute thermal barrier (typically 1/2 inch drywall) is required by most building codes to separate the insulation from the interior.
Dark or highly saturated finish colors may require added maintenance compared to light or pastel colors.
Air Barrier, insulation board, drainage mat, and base coat materials are not intended for prolonged weather exposure. Refer to component product bulletins for specific limitations involving exposure, use, handling, and storage of component materials.

Sustainable Design	
<b>Air Quality and VOC Compliance</b>	
All finish coatings, adhesives, AWRB coatings and joint treatments meet South Coast AQMD (Rule 1113) VOC requirements.	
<b>LEED Credit Eligibility</b>	
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 and the resulting reductions in energy use and greenhouse gas emissions. The use of light weight metal studs and light weight finishes has positive impacts on life cycle energy use by reducing dead loads and structural support requirements when compared to mass wall and full thickness/weight veneer units. Sto GPS Board does not use fluorocarbon blowing agents (HFC, HCFC, or CFC) in manufacturing. It is recyclable and has excellent long term thermal stability, low global warming potential and zero ozone depletion potential.	
<b>Regulatory Compliance and Standards Testing</b>	
UL ER16529-01	GPS Board listed and labeled by UL Solutions
ICC ESR No. 1233	StoGuard Complies with 2018 and 2021 IBC, IRC and IECC
ASHRAE 90.1-2019 <sup>1</sup>	Complies with Section 5, Building Envelope, air barrier and continuous insulation requirements
ASTM 2357 <sup>2</sup>	Air and water-resistive barrier meets assembly 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)
NFPA 285 <sup>3</sup>	Meets flame propagation criteria for use on Types I, II, III, IV construction with up to 2-1/8-inches (51 mm) of insulation
ASTM E 119 <sup>4</sup>	Meets requirements for 1-hour fire-resistance-rating (or 2-hours depending on base wall assembly)

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

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 - 6300</b> Revision: 007 Date: 08/2023	<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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