

# StoPowerwall®

Portland cement stucco with continuous air and moisture barrier, drainage, and high performance finish



1)	Substrate (by others): Glass mat gypsum sheathing in compliance with ASTM C 1177, building code compliant wood-based sheathing (plywood or OSB), concrete, or concrete masonry (CMU)
2)	StoGuard Air and Moisture Barrier
3)	Code compliant sheathing membrane (by others)
4)	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 (by others)
5)	ASTM C 926 compliant stucco (as manufactured or listed by Sto Canada, Ltd.)
6)	Sto primer (optional)
7)	Sto Textured Finish

System Description	
StoPowerwall is a stucco wall assembly with continuous air and moisture barrier and moisture drainage. It combines the strength and durability of traditional stucco with StoGuard moisture protection and Sto high performance finishes.	
Uses	
StoPowerwall can be used in residential or commercial wall construction where superior aesthetics, and air and moisture control are essential in the climate extremes of Canada	
Features	Benefits
<b>Integrally colored factory blended textured finish</b>	Consistent color and aesthetics increase curb appeal
<b>Moisture drainage</b>	Reduces risk of moisture accumulation
<b>Impact and puncture resistant</b>	Withstands abuse, reduced maintenance
<b>Continuous air and moisture barrier</b>	Helps reduce energy costs
Properties	
<b>Weight (excluding sheathing / studs)</b>	< 56.6 kg/m <sup>2</sup> (12 psf)
<b>Assembly Thickness (from outside face of sheathing)</b>	Nominal 22 mm (7/8 inch)
<b>RSI Value R-value (from outside face of sheathing)</b>	0.148 m <sup>2</sup> •K / W (0.84 ft <sup>2</sup> •h•°F / Btu)
<b>Wind Load Resistance</b>	Capable of achieving: +3.11, -2.29 kPa (+65, -48 psf)
<b>Compliance</b>	<ul style="list-style-type: none"> <li>Stucco mix conforms to ASTM C 926</li> <li>Air Barrier listed by CCMC: ER 13120-R</li> </ul>
Warranty	
<b>Up to 10 year Limited Warranty available on Sto products when Sto Crack Defense is added to assembly</b>	
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

Wind load resistance: +3.11, -2.29 kPa (+65, -48 psf) 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 installed over stucco.

For use on vertical above grade walls only. Do not use below grade or on roofs or roof-like surfaces.

Dark or highly saturated finish colors may require added maintenance compared to light or pastel colors.

Air Barrier 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

### Regulatory Compliance and Standards Testing

<b>ASTM C 926<sup>1</sup></b>	Stucco base material is in compliance with ASTM C 926 when installed at a minimum thickness of ¾ inch (19 mm) in 2 coats to code compliant frame or masonry wall assemblies
<b>CCMC ER 13120-R</b>	Air barrier material complies with NBC 2010
<b>ASHRAE 90.1-2010<sup>2</sup></b>	Complies with Section 5, Building Envelope, air barrier requirements
<b>ASTM 2357<sup>3</sup></b>	Air/Moisture barrier meets air leakage resistance criteria of $\leq 0.2 \text{ L/s}\cdot\text{m}^2$ at 75 Pa (0.04 cfm/ft <sup>2</sup> at 1.57 psf) with proper integration details

1. *Standard Specification for Application of Portland Cement-Based Plaster*
2. *Energy Standard for Buildings Except Low-Rise Residential Buildings*
3. *Standard Test Method for Determining Air Leakage of Air Barrier Assemblies*

<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 - S504</b> Revision: 000 Date: 12/2015</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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