



Sto Corp. | **Powerwall® Systems**
Designing The Evolution of Stucco



**Sto Powerwall® Systems -
Designing the Evolution of Stucco**

Sto Powerwall®

The dictionary defines “stucco” with the simple description; plaster or cement for surfacing walls. With the introduction of Sto Powerwall Systems, we have redefined stucco and set a higher standard for beauty, durability and strength.

Stucco is an old-fashioned yet low-cost, aesthetically pleasing, durable and impact resistant cladding. Through technical innovation, Sto is advancing stucco into the future. Sto Corp. combines the best of engineered fiber-reinforced cement stucco with technologically advanced elastomeric finishes to create a stucco-type system that provides a superior cladding over traditional, field-mixed sand, lime and cement. Superior products in a superior system create a more durable, impact resistant, colorfast exterior wall cladding.

Sto Powerwall® is better than conventional field-mixed stucco because:

Product Feature	How/Why Is It Better?	The Benefit To You
Higher compressive strength	<ul style="list-style-type: none"> • More controlled mix • Fibers added 	<ul style="list-style-type: none"> • Greater impact resistance for greater customer satisfaction
Higher tensile strength	<ul style="list-style-type: none"> • More controlled mix • Fibers added 	<ul style="list-style-type: none"> • Less cracking
Get lower weight per square foot	<ul style="list-style-type: none"> • Can be installed in thinner sections than conventional stucco • Material does not absorb as much moisture 	<ul style="list-style-type: none"> • Lower and less expensive structural requirements
Superior weather resistance	<ul style="list-style-type: none"> • Sto elastomeric coatings/ finishes bridge hairline cracks 	<ul style="list-style-type: none"> • Does not allow moisture to get into the wall • Helps maintain appearance longer
Faster installation	<ul style="list-style-type: none"> • Less field mixing = less time and better consistency • Can be applied in one application 	<ul style="list-style-type: none"> • Lower installation costs

“Powerwall and Powerflex are more than tough names, they make regular stucco feel inferior and weak.”



Call us or visit www.stocorp.com to learn more about which System is best for your specific type of construction.



**Sto Corp. - The Single Source of
Materials for Your Project**

CONSISTENCY

What makes Sto Powerwall® Systems different from the rest?

Sto provides a single source for the best combination of both local and national products for quality control and cost effectiveness.

Specifically:

- Sto Powerwall® Stucco is produced regionally with local raw materials to economically deliver the best recipe for your building. This feature allows more consistent quality control than on the job, field mixed stucco.
- Sto coatings and finishes are produced in Sto's ISO certified manufacturing facilities with extremely strict quality control requirements and carefully selected raw materials from across North America.

Another Sto advantage is Powerwall's premixed and pre-measured cement, lime, fiber, and additives formula. Also we use higher quality elastomeric finishes utilizing a high polymer content and marble aggregate (not quartz) for brighter colors. We design our products for maximum effective crack bridging and to minimize pinholing.



Sto is also superior when it comes to color. We produce elastomeric finishes using color expertise competitors can't touch:

- Batch to batch consistency, so if just a few pails are needed, the color can easily be matched
- Over 100,000 tint formulas readily available to distributors on the Internet
- Utilization of highly concentrated pigments so a smaller amount is used to resist chalking.

Sto Corp. is the single source of materials for your project. We give you the best combination of local and national quality control that creates better products (combining stucco and elastomeric finishes) and consistent color, pail to pail, and batch to batch.

Call us or visit www.stocorp.com to learn more about which System is best for your specific type of construction.

The Sto Powerwall® Systems

The Components

#1: BASE COATS

Sto Powerwall® Stucco – Fiber-reinforced portland cement stucco base coat

Sto Flexyl - a unique acrylic-based, fiber-reinforced, flexible water-proofing membrane

Sto Lever - polymer modified, cement-based, fiber reinforced used to level irregular masonry, concrete or stucco wall surfaces

#2: PRIMERS

Sto Primer – an acrylic-based primer

Sto Plex W – a water-based surface conditioner

#3: COATINGS AND FINISHES

All Sto Corp. finish products are water-based and VOC compliant. Our ISO 9001: 2000 manufacturing facilities conform to the requirements of this international quality standard. They are best understood with a Good, Better, Best comparison:

GOOD

A blend of standard acrylic and elastomeric polymers for a flexible, yet economical quality finish, designed to bridge hairline cracks

BETTER

100% elastomeric polymers to provide the highest level of flexibility to bridge hairline cracks as they expand and contract, helping to prevent moisture from entering the wall.

BEST

Silicone-Enhanced Coatings and Finishes- Sto's technologically advanced silicone enhanced elastomeric finishes are engineered to the highest standards and protect buildings like no other coatings. StoSilco products allow for a better-looking, better protected building with less need for recoating and maintenance.

Sto Powerwall® Warranties (Materials Warranties)

Sto Powerwall® Stucco with:

Sto Powerwall®, flexible textured finish - 3 years/5 years with Sto Primer

Sto Powerflex, elastomeric textured finish or
Stolastic smooth elastomeric coating - 5 years/7 years with Sto Primer

Sto Powerflex Silco, silicone enhanced elastomeric textured finish or
Stolastic silicone enhanced smooth elastomeric coating - 7 years/10 years with Sto Primer

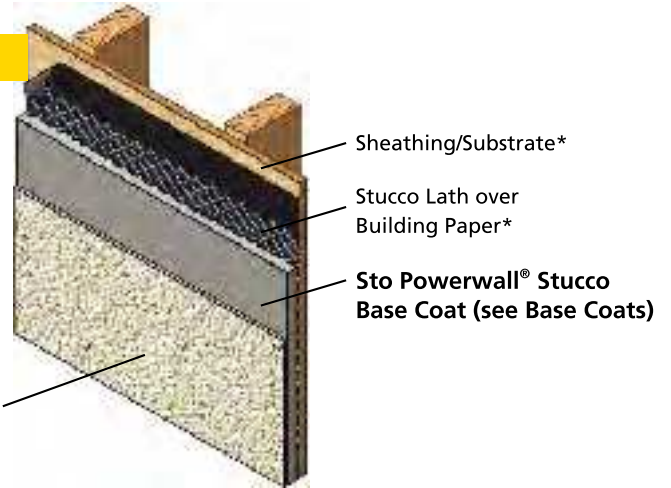
Sto Moisture Protection Warranty

With the proper installation of Sto Guard® to create a Powerwall® NEXt system, there is a moisture protection warranty that matches the same period in years as the Powerwall® system installed over it.

See page 7 for more information on Powerwall® NEXt.

Sto Powerwall® IS

Sto Powerwall® Finish (with DPR) – Trowel applied; available in fine sand, medium sand, and swirl textures



Textured Finish - Sto Powerwall
(see Coatings/Finishes)

Sto Powerwall®

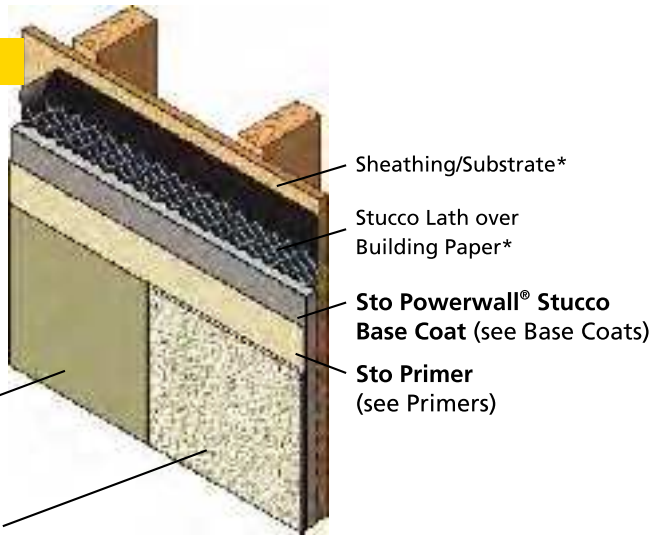
Sto Powerflex – Trowel applied textured finish; available in fine sand, medium sand, swirl, and freeform textures.

Stolastic – Roller or spray applied smooth or sanded coating.

Finish Coat:

Smooth Coating - Stolastic
(see Coatings/Finishes)

Textured Finish - Sto Powerflex
(see Coatings/Finishes)



Sto Powerwall® Silco

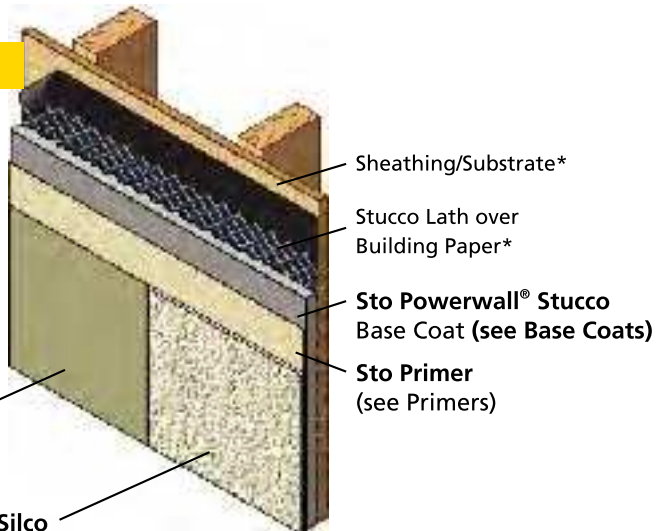
Sto Powerflex Silco – Trowel applied textured finish; available in fine sand, medium sand, swirl, and freeform textures.

StoSilco Lastic – Roller or spray applied smooth or sanded coating

Finish Coat:

Smooth Coating - Sto Silcolastic
(see Coatings/Finishes)

Textured Finish - Sto Powerflex Silco
(see Coatings/Finishes)



*Not part of the Sto System.

Sto Powerwall® NExT: Stucco's Answer to Ultimate Protection

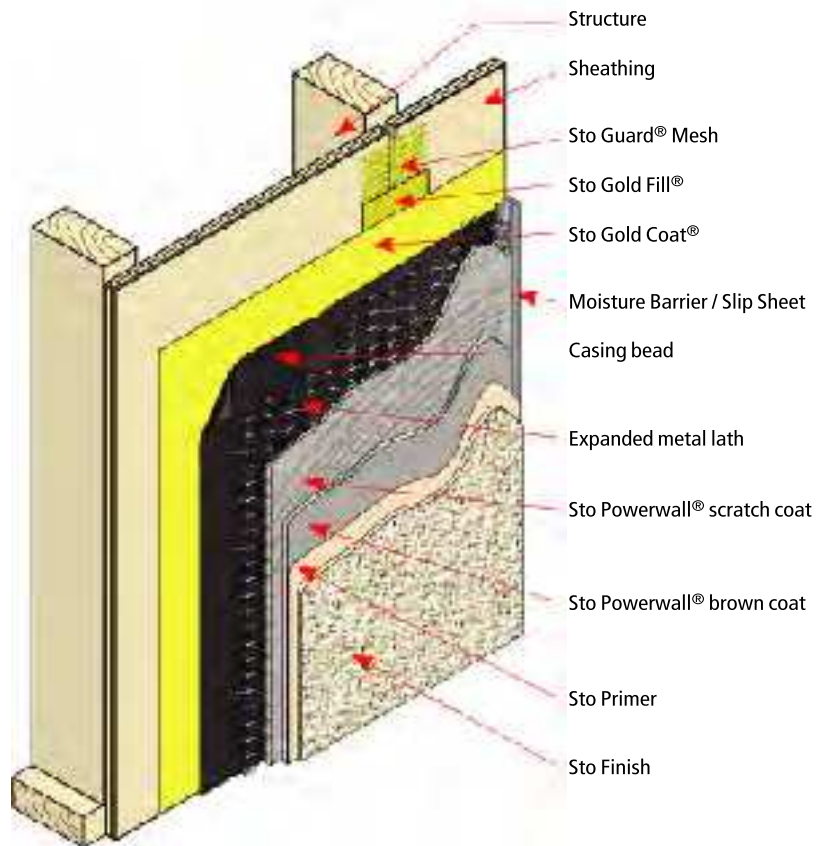
Sto introduces an evolutionary new cladding that incorporates the best of Powerwall® design flexibility and strength and adds the best air and moisture protection system. With industry expertise that is unmatched and proven worldwide, our latest innovation, Sto's Powerwall® NExT (New Exterior Technology), is the new industry benchmark.

Powerwall® NExT protects using Sto Guard®, a seamless, fluid-applied air and moisture barrier that provides superior protection against air and moisture intrusion and mold under cement stucco. It has been proven to resist mold when tested in accordance with ASTM D3273. Sto Guard® is a superior product that is vapor permeable and is applied to sheathing beneath paper backed metal lath or other separation layer.

Sto Guard® is comprised of **three products**. **Sto Gold Fill®** is a spray applied flexible joint treatment that bridges sheathing joints and protects rough openings. **Sto Guard®** mesh is embedded in Sto Gold Fill®. Finally, **Sto Gold Coat®** is a liquid, spray-applied waterproof coating that forms a barrier to protect sheathing during and after construction.

Sto Powerwall® NExT incorporates the Sto Guard® system to create a continuous secondary air and moisture barrier to protect the sheathing and other construction components.

Unlike building paper or wraps that are easily damaged or torn during the construction process, Sto Guard® is seamless, tough and durable. Sto Guard® resists moisture penetration more than 5 times longer than leading brand house wraps, and more than 28 times longer than conventional building paper.



Sto Moisture Protection Warranty

With the proper installation of StoGuard® to create a Powerwall® NExT system, there is a moisture protection warranty that matches the same period in years as the Powerwall® system installed over it.

Call us or visit www.stocorp.com to learn more about the moisture protection warranty.

Sto's Added Value: Innovation, Experience, Performance, Customer Service

Sto adds value to your project from the beginning phases of your construction project with:

- Most comprehensive product line
 - Sto Stucco Systems
 - Sto Guard Air and Moisture Barrier
 - EIFS (Exterior Insulation Finish Systems)
 - Exterior Finishes and Coatings
 - Interior Finishes and Coatings
 - Restoration Products
- Experienced independent applicator base
- Proven warranty program
- Local sales & technical representatives
- Technical Service Hotline (1-800-542-3057)
- Established local distribution network for timely delivery
- Regional manufacturing support
- Local, regional, and national building code recognition
- Provider: AIA Continuing Education
- Sto Studio: award winning color design service to help you use color and design to enhance the aesthetic impact and value of any property
- Sto Institute: Sto educational unit, providing practical seminars and training courses for industry professionals



www.stocorp.com Features

An easy to use reference source for the building professional to view, download and print:

- System specifications
- Detail drawings
- Building Code Approvals
- Product bulletins
- Tech Hotlines
- Material Safety Data Sheets (MSDS)
- Distributor locations
- Company information



Sto Electronic Submittal System (ESS)

- Prepare a complete submittal package: Including systems and product information; inclusion of Specification, Warranty Schedule, and Sample Warranty

Achieving Lasting Performance and Durability in Stucco Systems

Understanding appropriate construction practices and some of the common causes of problems in exterior stucco can help prevent future problems. Building construction should comply with National, State and Local Building Codes. Less than complete code compliance seriously jeopardizes an owner's or builder's investment. Construction details, particularly flashing at window sills, roof/wall intersections, decks and other transition areas of construction should be designed or built to divert water to the exterior, not into the walls.

Cracking to some degree is normal in stucco. Understanding the numerous factors that contribute to cracking, including the following conditions, can encourage construction and maintenance practice that minimize cracking:

- Settling of building site
- Structural movement
- Wood shrinkage
- Roof leakage - window leakage
- Absence of caulking at windows and doors
- Poor lath installation
- Absence or improper location of expansion or control joints
- Improper mixing - inadequate curing
- Improper sequence of work (i.e., roof and/or interior drywall work after installation of stucco)



Stucco at and below grade can cause problems with durability that require continual maintenance. Sound grading and landscaping practices should be used to provide effective drainage of water away from the walls of the structure at grade, and the stucco should be kept well above finished grade. Wood framing or sheathing should never go below grade.

Sprinklers should not use walls as a means of diverting water to gardens or lawns. Drip irrigation should not keep soil continually wet near base of wall.

Horizontal and low-slope surfaces are not intended for stucco applications. Extra surface preparation is required and periodic maintenance and reduced durability should be expected for any weather-exposed sloped surfaces.

Retaining walls and planters should be thoroughly waterproofed from the inside (where the soil makes contact) before putting any stucco on the outside.

Caulking should be installed at all terminations of the stucco and all openings through the stucco (windows, doors, pipes, vent, etc.).

Scuppers or canales should not use the walls to drain water from the roof into or onto walls.

Choice of color can be a determining factor in the longevity of the stucco's like new appearance. Dark colors will generally fade faster than lighter colors and require more frequent maintenance, including recoating.

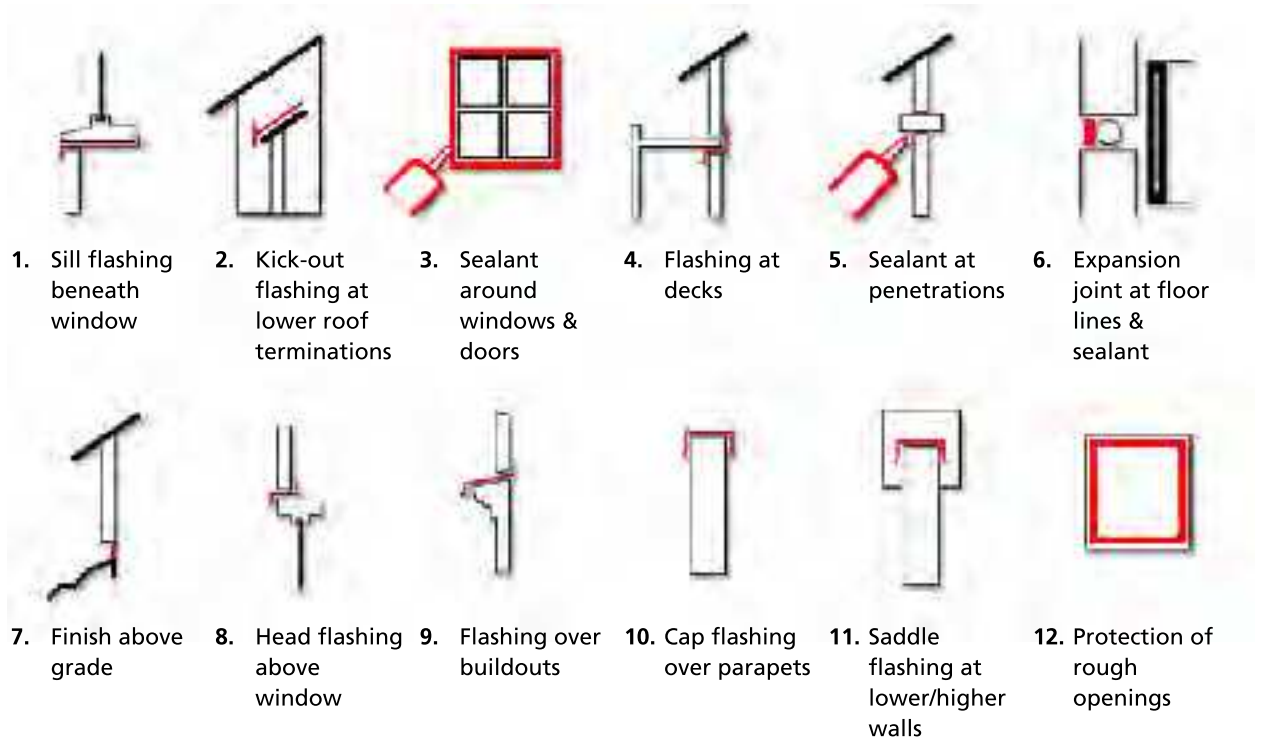
For more information or to contact your local distributor, please visit us on the web at www.stocorp.com or call us toll-free at 800-221-2397.

DURABILITY

Failure Prevention

Moisture Intrusion and Critical Details

Most moisture intrusion problems do not occur because of material failures. They occur because of poorly designed or constructed details that allow water to enter walls rather than direct water to the exterior. To avoid costly water intrusion problems a few simple principles must be followed in the detailing of the construction. Many of these details rely on flashing to make a leak proof transition between abutting construction elements.



For more complete information visit, www.stocorp.com

- Wood frame
- Sheathing
- Expanded metal latch
- Moisture barrier
- Corner reinforcing
- Sto Powerwall® stucco
- Sto insulation
- Sto base coat and mesh lapped onto face of OCS
- Sto Flexyl and mesh on upper surface
- Sto Primer
- Sto finish
- EIFS features less than 2" (50mm) thick

Sto Powerwall® System with Foam Shape Build Out

Combining foam shape build outs with stucco is an excellent way to add extra style to your project. By using Sto, you get the benefit of working with industry experts at the world's largest producer of EIFS as well as Sto's proven expertise of Designing the Evolution of Stucco. This sample detail showcases how Sto can help you design and build your best stucco building.



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