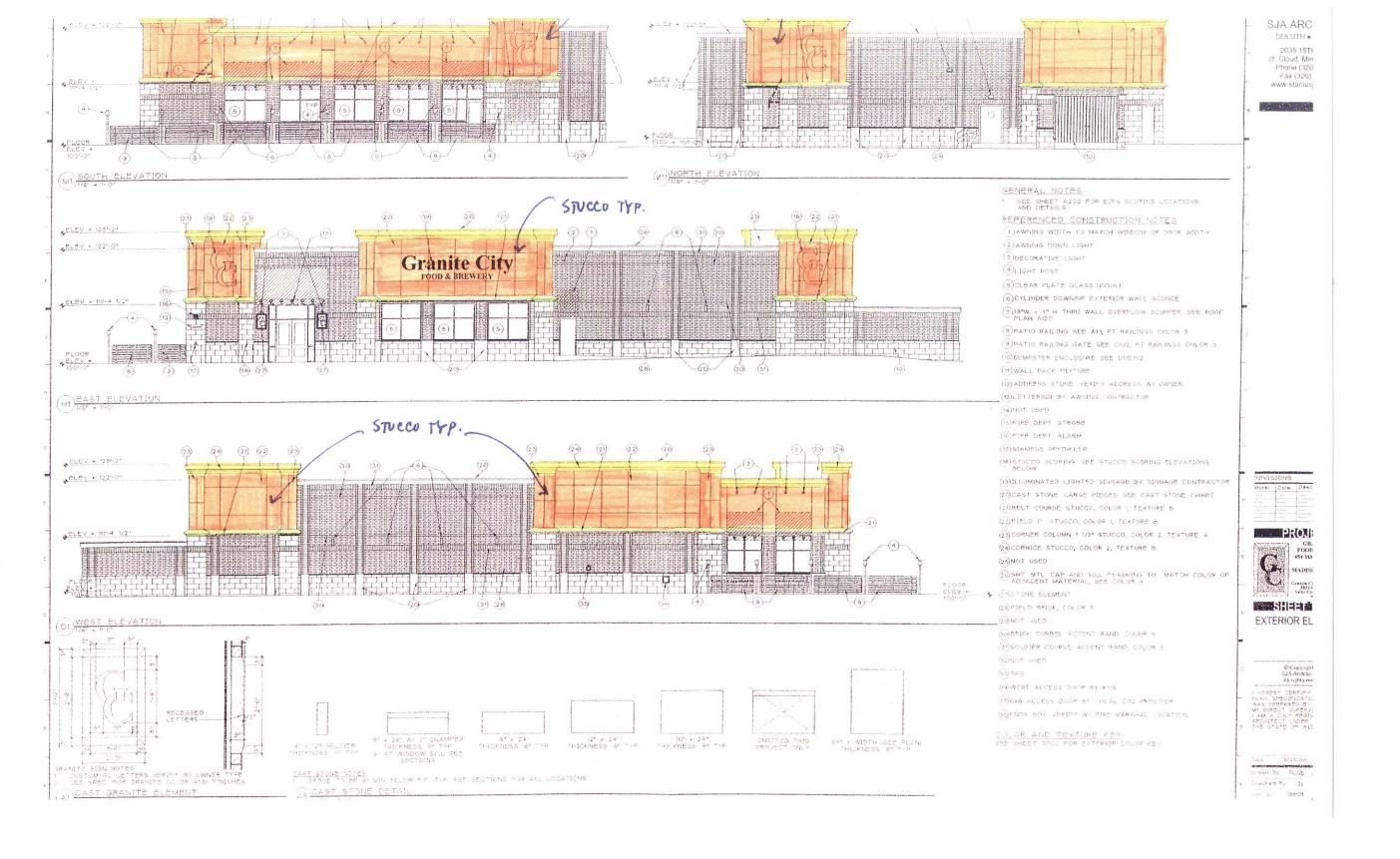
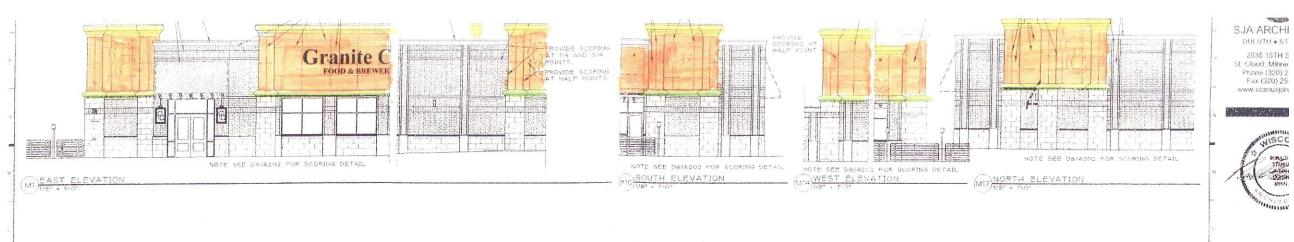
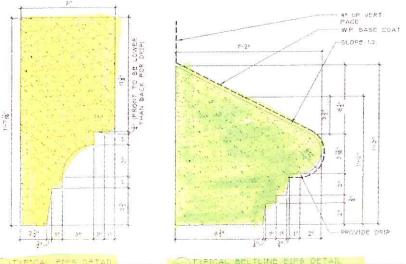
APPLICATION FOR	AGENDA ITEM#
URBAN DESIGN COMMISSION	The state of the s
REVIEW AND APPROVAL	04-009
DATE SUBMITTED: JUNE 21, 2006  UDC MEETING DATE: JUNE 28, 2006	Action Requested Informational Presentation Initial Approval and/or Recommendation Final Approval and/or Recommendation
33517	
PROJECT ADDRESS: 454 Common Road	
ALDERMANIC DISTRICT: 1	
OWNER/DEVELOPER (Partners and/or Principals)  Dun ham Capital Wange mat	STA ANNICO
230 5 Phillips Ave Suite 202	
Slowx Falls SD 57104	St Cloud MN 56303
CONTACT PERSON: Sean Corrie =	ladion WT 53723- 7568
well as a fee)  School Public Building or Space (Fee may be t	g of a Retail, Fiolet or Molet Building Exceeding 50,000
(See Section C for:)  R.P.S.M. Parking Variance (Fee required)  (See Section D for:)  Comprehensive Design Review* (Fee required)	* Modification to previously approved project.
Street Graphics Variance* (Fee required)	Project.
Other	30 A
*Public Hearing Required (Submission Deadline 3 We F PLEOCH WORDSPLEED) Miscolamanisadeness appearable der das	eks in Advance of Meeting Date)  RECEIVED  JUN 2006  City of Madison

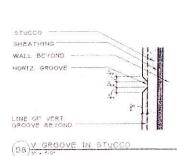
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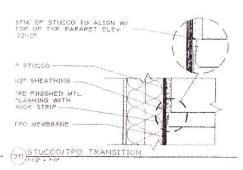


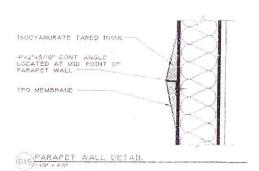


Areas in orange are presently specidos stucco We are proposing all colored areas to be EIFS









NOTE PROTECT PLWD SHEATHING ON PARAPETS W/ POLY TO PROTECT THEM FROM WEATHER DAMAGE BEFORE STUCCO INSTALLATION AT STUCCO LOCATIONS ONLY).

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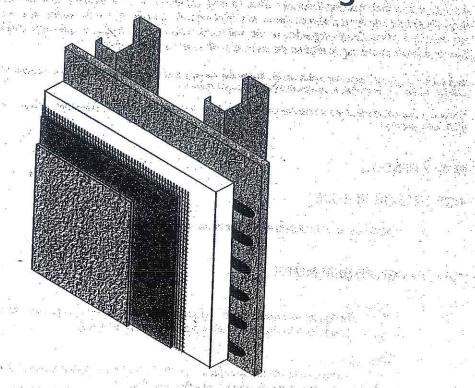
EIFS DETA

Drawn By 94,08 pmt Crashed by 34



Sto Insulated Wall Claddings

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Specification and Details

### Sto Insulated Wall Claddings

### **Short Form Guide Specification 100**

### Section 07240

This specification is intended for use by the design/construction professional and any user of Sto products to assist in developing project specifications and to provide guidance on the application of the Sto Systems to concrete, masonry and exterior wall sheathing. The Sto Systems are exterior insulation and finish systems that function as decorative and protective insulating wall claddings. They consist of five components—adhesive, insulation board, reinforcing mesh, base coat and finish coat. These components, when properly integrated with other components of construction, form a barrier wall which is intended to resist water penetration at its outer surface. A barrier wall is not designed to drain or eliminate moisture behind it. The accumulation of moisture behind the Sto Systems could result in building damage. As with any wall cladding, proper detailing and integration with other components of construction by a qualified design or construction professional, including the proper use of flashing, to prevent the accumulation of moisture within the wall assembly are essential. Generally a vapor retarder is placed on the warm side of the wall. Specifically, it is placed on the interior side in cold climates. A vapor retarder may not be necessary depending on the wall components and the range of temperature/humidity conditions inside and outside. A vapor retarder should not be used on the inside of walls in warm humid climates.

Notes in italics, such as this one, are explanatory and intended to guide the design/construction professional and user in the proper selection and use of materials. This specification should be modified where necessary to accommodate individual project conditions.

\*\*\*\*Refer to long form specifications E100 (Sto Essence), A100 (Sto Classic) and P100 (Sto Premier) for detailed information on substrates, performance data, mixing and installation instructions.\*\*\*

### PART 1 GENERAL

### 1.01 SECTION INCLUDES

A. Materials and installation of Exterior Insulated Wall Claddings.

### 1.02 DESIGN REQUIREMENTS

### A. Wind Load

- 1. Design for maximum allowable system deflection, normal to the plane of the wall, of L/240.
- Design for wind load in conformance with code requirements.

### B. \* Moisture Control

- Prevent accumulation of water behind the System, either by condensation or leakage through the wall construction, in the design and detailing of the wall assembly.
  - a. Provide flashing to direct water to the exterior where it is likely to penetrate components in the wall assembly, including, above window and door heads, beneath window and door sills, at roof/wall intersections, decks, abutments of lower walls with higher walls, above projecting features, and at the base of the wall.
  - Air Leakage Prevention—see Sto Specification 100G if an air barrier is desired or required in the wall construction.
  - c. Vapor Diffusion and Condensation— perform a dew point analysis of the wall assembly to determine the potential for accumulation of moisture in the wall assembly as a result of water vapor diffusion and condensation. Adjust insulation thickness and/or other wall assembly components accordingly to minimize the risk of condensation. Avoid the use of vapor retarders on the interior side of the wall in warm, humid climates.

### C. Impact Resistance

1. Provide ultra-high impact resistance to a minimum height of 6'-0" (1.8 m) above finished grade at all areas accessible to pedestrian traffic and other areas exposed to abnormal stress or impact. Indicate the areas with impact resistance other than "Standard" on contract drawings.

### D. Color Selection

Select finish coat with a light reflectance value of 20 or greater. (The use of dark colors is not recommended with Systems that incorporate expanded polystyrene [EPS]. EPS has a service temperature limitation of approximately 160° F [71°C]).



### E. Joints

- Design minimum 3/4 inch (19 mm) wide expansion joints in the System where they exist in the substrate or supporting construction, where the System adjoins dissimilar construction or materials, at changes in building height, and at floor lines in multi-level wood frame construction.
- Design minimum 1/2 inch (13 mm) wide sealant joints at all penetrations through the System (windows, doors, etc.).
- Specify compatible backer rod and sealant that has been evaluated in accordance with ASTM C 1382, "Test
  Method for Determining Tensile Adhesion Properties of Sealants When Used in Exterior Insulation and Finish
  System (EJFS) Joints," and that meets minimum 50% elongation after conditioning.
- Design joints with secondary moisture protection and drain joints to the exterior.

### Grade Condition

34. 40

 Do not specify Systems for use below grade (unless designed for use below grade and permitted by code) or for use on surfaces subject to continuous or intermittent water immersion or hydrostatic pressure.

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### G. Trim, Projecting Architectural Features and Reveals

- 1. All trim and projecting architectural features must have a minimum 1:2 [27°] slope along their top surface. All horizontal reveals must have a minimum 1:2 [27°] slope along their bottom surface. Increase slope for northern climates to prevent accumulation of ice/snow and water on surface. Where trim/feature or bottom surface of reveal projects more than 2 inches (51 mm) from the face of the System wall plane, protect the top surface with water-proof base coat. Avoid the use of trim and features that exceed the maximum allowable thickness of EPS permitted by code (typically 4 inches [100 mm]) unless approved by the code official. Periodic inspections and increased maintenance may be required to maintain surface integrity of Systems on weather exposed sloped surfaces. Limit projecting features to easily accessible areas and limit total area to facilitate maintenance and minimize maintenance burden. Refer to Sto details 1.04a and 1.04b.
- Do not use Sto Systems on weather exposed projecting ledges, sills, or other projecting features unless supported by framing or other structural support and protected with metal coping or flashing. Refer to Sto detail 1.61.

### H. Fire Protection

- 1. Do not use foam plastic in excess of 4 inches (100 mm) thick unless approved by the code official.
- Where a fire-resistance rating is required by code use System over rated assembly (Sto Systems are considered not to add or detract from the fire-resistance of the rated assembly).
- Refer to manufacturer's applicable code compliance report for other limitations that may apply.

### 1.03 QUALITY ASSURANCE

### A. Manufacturer requirements

- 1. Member in good standing of the EIFS Industry Members Association (EIMA).
- 2. System manufacturer for a minimum of twenty-five (25) years.
- 3. Manufacturing facilities ISO 9001:2000 certified.
- Manufacturer's wall assembly listed in Gypsum Association Fire Resistance Design Manual.

### B. Contractor requirements

- Engaged in application of EIFS for a minimum of three (3) years.
- Knowledgeable in the proper use and handling of Sto materials and listed by Sto as having attended Sto EIFS continuing education.
- 3. Employ skilled mechanics who are experienced and knowledgeable in EIFS application, and familiar with the requirements of the specified work.
- 4. Successful completion of minimum of three (3) projects of similar size and complexity to the specified project.
- 5. Provide the proper equipment, manpower and supervision on the job site to install the system in compliance with Sto's published specifications and details and the project plans and specifications.

### C. Insulation board manufacturer requirements

- Recognized by Sto as capable of producing insulation board to meet system requirements, and hold a valid licensing agreement with Sto.
- 2. Listed by an approved agency.
- Label insulation board with information required by Sto, the approved listing agency and the applicable building code.

### D. Mock-up Testing

- Construct full-scale mock-up of typical EIFS/window wall assembly with specified tools and materials and test
  air and water infiltration and structural performance in accordance with ASTM E-283, E-331 and E-330,
  respectively, through independent laboratory. Mock-up shall comply with requirements of project specifications.
  Where mock-up is tested at job site maintain approved mock-up at site as reference standard. If tested off-site
  accurately record construction detailing and sequencing of approved mock-up for replication during construction.
- 4 www.stocorp.com

- 1. Provide independent third party inspection where required by code or contract documents:
  - 2. Conduct inspections in accordance with code requirements and contract documents.

### 1.04 DELIVERY, STORAGE AND HANDLING

- Deliver all materials in their original sealed containers bearing manufacturer's name and identification of product.
- Protect coatings (pail products) from freezing and temperatures in excess of 90° F (32° C). Store away from direct sunlight.
- Protect Portland cement based materials (bag products) from moisture and humidity. Store under cover off the ground in a dry location.

### 1.05 COORDINATION/SCHEDULING

(The work in this section requires close coordination with related sections and trades)

- Provide site grading such that the Sto System terminates above finished grade a minimum of 8 inches (203 mm) or as required by code.
- Provide protection of rough openings before installing windows, doors, and other penetrations through the wall and provide sill flashing.
- Install window and door head flashing immediately after windows and doors are installed.
- Install diverter flashings wherever water can enter the wall assembly to direct water to the exterior.
- Install copings and sealant immediately after installation of the System and when finish coatings are dry.
- Attach penetrations through System to structural support and provide water tight seal at penetrations. he I have be had been the with a self-in it.

### PART 2 PRODUCTS

### 2.01 MANUFACTURERS

- Provide System products and accessories from single source manufacturer or approved supplier.
- The following are acceptable manufacturers:
  - Sto Corp. Insulated Cladding System
  - Plastic Components, Inc. Accessories

### ADHESIVE (select one)

10 50 70 70 70		
Sto Primer/Adhesive-B	Sto BTS® <i>Plus</i>	Sto BTS® Plus
		10 Mg - 11 Mg - 12 Mg
Sto Dispersion Adhesive	Sto Dispersion Adhesive	Sto Dispersion Adhesive
	is also Page on Dahatul wateflessesses	
	Sto BTS® NC	Sto BTS® NC

- Sto BTS® Plus one-component, polymer-modified, cement based high build adhesive.
- Sto BTS® Silo one component, polymer modified cement base high build adhesive specially formulated for use with StoMachine Technology equipment.
- Sto Primer/Adhesive-B one-component, polymer-modified, cement based high build adhesive.
- Sto Primer/Adhesive two-component, acrylic-based adhesive mixed with Portland cement.

- E. Sto Dispersion Adhesive non-cementitious, acrylic based adhesive.
- F. Sto Fast Set Dry Adhesive/Base one component, polymer modified, cement based, fast setting high build adhesive.
- G. Sto BTS® NC one-component, polymer-modified, cement based, non-combustible high build adhesive.

### 2.03 INSULATION BOARD

A. Nominal 1.0 lb/ft³ (16 kg/m³) Expanded Polystyrene (EPS) Insulation Board in compliance with ASTM C 578 Type I requirements, and EIMA Guideline Specification for Expanded Polystyrene (EPS) Insulation Board.

# 2.04 BASE COAT (select one. Select E to supplement others on surfaces that require waterproofing)

Sto Primer/Adhesive-B	Sto BTS® Plus	Sto BTS® Plus
Sto Flexyl	Sto Flexyl	Sto Flexy
	Sto Fast Set Dry Adhesive/Base	Sto Fast Set Dry Adhesive

- A. Sto BTS® Plus one-component, polymer modified, cement based high build base coat with less than 33 percent Portland cement content by weight and capable of achieving minimum 1/16 inch (1.6 mm) thickness in a single pass.
- B. Sto BTS® Silo one component, polymer modified, cement based high build base coat specially formulated for use with StoMachine Technology labor saving equipment and capable of achieving minimum 1/16 inch (1.6 mm) thickness in a single pass.
- C. Sto Primer/Adhesive-B one-component, polymer-modified, cement based high build base coat.
- D. Sto Primer/Adhesive two-component, acrylic-based base coat mixed with Portland cement.
- E. Sto Flexyl two component, fiber reinforced acrylic based waterproof base coat mixed with Portland cement,
- F. Sto RFP one component, ready mixed, non-cementitious fiber reinforced acrylic base coat.
- G. Sto Fast Set Dry Adhesive/Base one component, polymer modified, cement based, high build, fast setting base coat capable of achieving minimum 1/16 inch (1.6 mm) thickness in a single pass.
- H. Sto BTS® NC one-component, polymer modified, cement based high build non-combustible base coat.

### 2.05 REINFORCING MESHES

- A. Standard Mesh
  - Sto Mesh nominal 4.5 oz./yd<sup>2</sup> (153 g/m<sup>2</sup>), symmetrical, interlaced open-weave glass fiber fabric made with alkaline resistant coating for compatibility with Sto materials (achieves Standard Impact Classification).
- B. Ultra-High Impact Mesh
  - Sto Armor Mat nominal 15 oz./yd² (509 g/m²), ultrahigh impact, double strand, interwoven, open-weave
    glass fiber fabric with alkaline resistant coating for compatibility with Sto materials (recommended to a minimum
    height of 6'-0" [1.8 m] above finished grade at all areas accessible to pedestrian traffic and other areas exposed
    to abnormal stress or impact). Achieves Ultra-High Impact Classification when applied beneath Sto Mesh.

### 2.06 PRIMER (optional component – Required with Sto GraniTex & Sto Decocoat)

A. Sto Primer — acrylic based tinted primer.

### 2.07 FINISH COAT (select one)

Sto Essence DPR	Stolit® (1995) to produce	StoSilco® Lit
and the state of t	Sto GraniTex	a di nama wa wasin in Interiore di

- Stolite acrylic based textured wall coating with graded marble aggregate and Optilinke advanced polymer technology.
- B. Sto Essence DPR acrylic based textured wall coating with marble aggregate and Dirt Pick-up Resistance technology.
- C. StoSilco® Lit silicone enhanced textured wall coating with graded marble aggregate and Optilink® advanced polymer technology.
- D. Sto Limestone acrylic based textured wall coating with graded marble aggregate. (requires application of two Stolit® finishes)

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- E. Sto GraniTex acrylic based textured wall coating with variegated colored aggregates.
- F. Sto Decocoat acrylic based textured wall coating with variegated colored quartz aggregates.

### 2.08 JOB MIXED INGREDIENTS

- A. Water Clean and potable.
- B. Portland Cement Type 1.

### 2.09 ACCESSORIES

A. Starter Track — Rigid PVC (polyvinyl chloride) plastic track Part No. STDE as furnished by Plastic Components, Inc., 9051 NW 97th Terrace, Miami, Florida 33178 (800 327-7077).

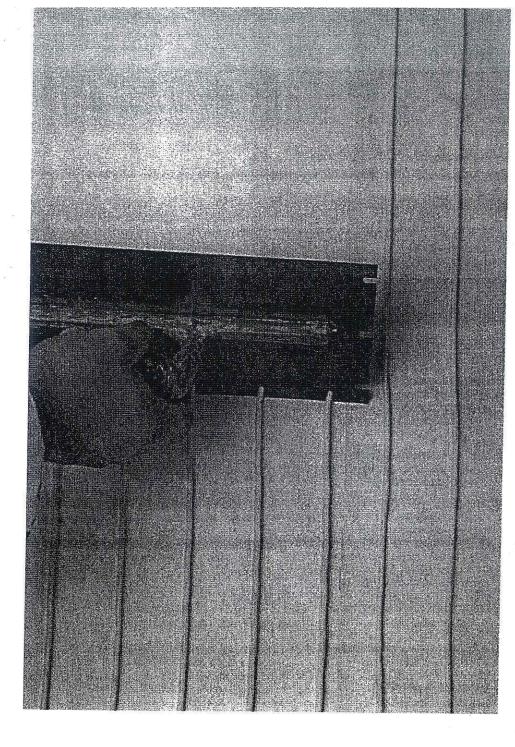
### PART 3 EXECUTION

### 3.01 INSTALLATION

A. Install Sto System in compliance with manufacturer's published instructions.

### 3.02 PROTECTION

- Provide protection of installed materials from water infiltration into or behind them.
- B. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until fully dry.



# Sto Dispersion Adhesive

829

Division 7

Sto Dispersion Adhesive is a ready-mixed acrylic-based adhesive. Sto Dispersion Adhesive is used to attach Sto Insulation Board to prepared concrete, masonry or sheathing substrates in Sto Insulated Wall Claddings, including Sto EIFS NEXT®.

### **Features & Benefits**

**Ready-mixed** Ready to use; no cement added at job site

### **Flexible**

Bridges normal movement in wood sheathing

# 100% Acrylic polymers Excellent adhesion; not brittle; retains flexibility

### Water-based

Safe, non-toxic; cleans up with water

### **Technical Data**

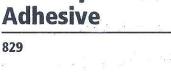
TEST	METHOD CRITI	ERIA	RESULTS
Adhesion (psi)	ASTM C-297	28 days	> 10 - Gypsum Sheathing* > 11 - G-P Dens-Glass® Gold** * > 25 - 3/8" plywood & OSB*
Freeze/Thaw Resistance	EIMA 101.01	No deterioration @ 60 cycles	Pass
Surface Burning	ASTM E-84	< 25 Flame Spread < 450 Smoke Developed	5

<sup>\*</sup>Failure of substrate



<sup>\*\*</sup>Dens-Glass\* Gold is a registered trademark of G-P Gypsum Corp.

## **Sto Dispersion Adhesive**





350-385 ft² (32-36 m²) per pail, applied using a U-notched trowel with notches 3/16" wide x 3/8" high (5 mm x 9.5 mm), and notches spaced approximately 1-7/8" (47 mm) apart on center. Coverage may vary depending on application technique and surface conditions.

**Packaging** 5 gal. pail (19 L)

Shelf Life

12 months, if properly stored and sealed.

Protect from extreme heat [90° F (32° C)], freezing and direct sunlight. After opening, Sto. Dispersion Adhesive will keep for several weeks if properly stored and resealed.

### **Surface Preparation**

Surfaces must be clean, dry, and free of frost, damage and all bond-inhibiting materials, including dirt, efflorescence, form oil and other foreign matter. Loose or damaged material must be removed by waterblasting, sandblasting or mechanical wire brushing and repaired. Avoid application over irregular surfaces. Resurface, patch or level surfaces to required tolerance and smoothness with appropriate Sto leveling materials. Refer to ASTM D-4258 and ASTM D-4261 for complete details on methods of preparing cementitious substrates for coatings.

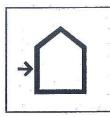
### Mixing

Mix with a clean, rust-free electric drill and paddle to a uniform consistency.

Application

Apply only to sound and clean, dry, properly prepared, frost-free surfaces.

Apply Sto Dispersion Adhesive to the back of Sto Insulation Board using a u-notched trowel with notches 3/16" (5 mm) wide and 3/8" (9.5 mm) high with notches spaced approximately 1-7/8" (47 mm) apart on center (see Coverage section for details). Form uniform ribbons of adhesive parallel to the long dimension of the board. Immediately install the board horizontally with staggered joints and apply firm pressure over the entire board surface. Once applied, the working time is up to 15 minutes depending upon material, ambient temperatures and surface conditions.















\*NOTE: For drainage of incidental moisture, form adhesive ribbons parallel to the short dimension of the insulation board.

Protect from rain, freezing and continuous high humidity until completely dry.

Curing/Drying

Sto Dispersion Adhesive dries within 24 hours under normal [70° F (21° C), 50% RH] conditions. Drying time varies depending upon temperature/ humidity and surface conditions. Allow additional drying time during cold or humid weather before application of primer and finish. For low absorption substrates, including surfaces protected with Sto Guard®, substantially prolonged drying times should be anticipated.

Clean Up

Clean tools and equipment with water immediately after use. Dried material can only be removed mechanically.

### Limitations

Use Sto Dispersion Adhesive only when surface and ambient temperatures are above 40° F (4° C) and below 100° F (38° C) during application and drying period. Sto Dispersion Adhesive is not recommended for use when cool damp conditions exist for prolonged periods. Cool damp conditions retard drying and may require extended periods of protection or delay in rasping insulation board surface. Do not use over pressure treated or fire retardant treated wood surfaces. Do not use on damp surfaces or on substrates with high moisture.

## **Health & Safety**

**Health Precautions** 

Product is water-based. As with any chemical construction product, exercise care when han-

### **Safety Precautions**

Use adequate ventilation. Safety goggles and protective gloves are recommended. Remove contaminated clothing immediately.

### First Aid

SKIN CONTACT: Wash thoroughly with soap and

EYE CONTACT: Flush immediately with water for 10-15 minutes and contact a physician. RESPIRATORY PROBLEMS: Remove affected person to fresh air immediately and contact a physician.

HYGIENE: Wash hands immediately after use. Wash clothing before re-use.

Collect with suitable absorbent material such as cotton rags.

Disposal

Dispose in accordance with local, state or federal regulations.

Warning

KEEP CONTAINER CLOSED WHEN NOT IN USE. KEEP OUT OF REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION. FOR INDUSTRIAL USE ONLY. Consult the Material Safety Data Sheet for further health and safety information.

### LIMITED WARRANTY

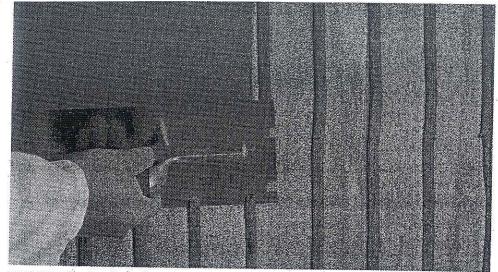
THIS PRODUCT IS SUBJECT TO A WRITTEN LIMITED WARRANTY WHICH CAN BE OBTAINED FREE OF CHARGE FROM: Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, GA 30331; Tel: 404-346-3666; Fax: 404-346-3119.

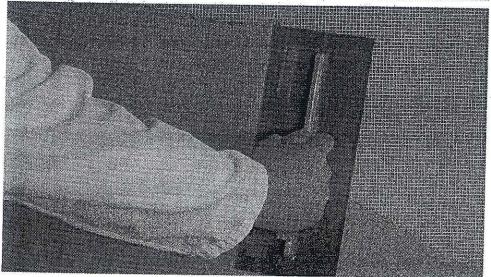
Refer to Sto specifications for more complete information on proper use and handling of this product.

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 100% ACRYLIC www.stocorp.com

S155-829 03/04 VEN 5609





### **Technical Data**

TEST	METHOD	CRITERIA	RESULTS
Surface Burning	ASTM E-84	< 25 Flame Spread < 450 Smoke Developed	0 5
Adhesion (psi)	ASTM C-297 Modified	28 days	> 20 - Gypsum Sheathing* > 15 - EPS Board* > 80 - Concrete Block* > 35 - Dens-Glass® Gold* **
Impact Strength	EIMA 101.86	Standard Impact Classification	Pass
Failure of cubetrate			

# **Sto Primer/ Adhesive-B**

101

Division 7

Sto Primer/Adhesive-B is a one-component, polymer-modified, cement based, dry powder material used as an adhesive and base coat in Sto Essence Insulated Wall Claddings, including Sto Essence NEXT®.

### **Features & Benefits**

One-component: Ready to use; easily mixed with water on the job site

### Polymer-modified

Excellent adhesion; increases durability and freeze/thaw resistance

Creamy smooth consistency Trowels on easily; increases productivity

Vapor permeable Allows substrate to breathe naturally; resists blisters caused by trapped

# Factory blended Portland cement Assures performance mix ratio

Low cement ratio Less alkalinity, less free lime, less efflorescence

### Bagged powder product

Less solid waste than pails; freezing protection not required prior to use



<sup>\*\*</sup>Dens-Glass® Gold is a registered trademark of G-P Gypsum Corp.

# Sto Primer/ Adhesive-B

101



"Through the wall": 65-80 ft2 (6.0 - 7.4 m2) per bag (when used for both adhesive and base coat applica-

As an adhesive over sheathing: 110-150 ft<sup>2</sup> (10.2-13.9 m²) per bag, applied with a 1/2" x 1/2" (13 mm x 13 mm) U-notched trowel having 2" (51 mm) spread between notches.

As an adhesive over masonry: 100-120ft2 (9.3-11.1 m<sup>2</sup>) per bag, applied with a 5/8" x 5/8" (16 mm x 16 mm) square-notched trowel, having 5/8" (16 mm) spread between notches.

As a base coat: 90 -140 ft2 (8.4-13 m2) per bag.

As a skim coat: 110-160 ft<sup>2</sup> (10.2-14.9 m<sup>2</sup>) per bag.

Coverages may vary depending on application technique and surface conditions.

Packaging 60 lb. bag (27 kg)

Shelf Life

12 months, if properly stored and protected from

### Storage

Store off the ground in a dry area. Protect from extreme heat [90° F (32° C)], moisture and direct sun-

### **Surface Preparation**

Concrete and masonry surfaces: Surfaces must be clean, dry, and free of frost, damage and all bondinhibiting materials, including dirt, efflorescence, form oil, and other foreign matter. Loose or damaged material must be removed by waterblasting, sandblasting or mechanical wire brushing and repaired. Avoid application over irregular surfaces. Resurface, patch or level surfaces to required tolerance and smoothness with appropriate Sto leveling materials. Refer to ASTM D-4258 and ASTM D4261 for complete details on methods of preparing cementitious substrates for coatings.

## Sto Exterior Insulation and Finish Systems

(EIFS): Insulation board must be rasped and free of all bond-inhibiting materials.

Sheathing: (Gypsum sheathing in compliance with ASTM C-79 or Glass Mat faced ovpsum sheathing in compliance with ASTM C-1177 [such as G-P Dens-Glass® Gold]). Surface must be clean, dry and free of frost, damage and of all bond-inhibiting materials. Sheathing must be installed and protected in accordance with manufacturer's requirements. Remove and replace weather damaged sheathing. Avoid application over irregular, out of plane surfaces.

Use 6-8 quarts (5.7-7.6 L) of water per 60 lb. bag (27 kg). Mix automatically using Sto's Continuous Mixer, or mix 1/2 bag at a time by adding Sto















Primer/Adhesive-B to 3-4 quarts (2.8-3.8 L) of clean. potable water in a dean mixing pail. Mix with a dean, rust-free electric drill and paddle. Allow to set approximately five minutes, adjust mix if necessary by adding up to 1/2 pint (.24 L) of water per 1/2 bag, remix to a uniform consistency. Avoid retempering after mixing of product. Do not exceed maximum amount of water in mix ratio.

### Application

Apply only to sound and dean, dry, properly prepared, frost-free surfaces.

As an adhesive: Apply to the back of insulation board with the appropriate size notched trowel, or directly onto the substrate using Sto's M-8 Spray Pump, then the appropriate sized notched trowel. Form uniform ribbons of adhesive parallel to the long\* dimension of the board. Immediately install the board horizontally with staggered joints and apply firm pressure over the entire board surface.

\*NOTE: For Sto Essence NExT®, form adhesive ribbons parallel to the short dimension of the insulation board.

As a base coat: Apply with spray equipment such as Sto's M-8 Spray Pump or a stainless steel trowel to an approximate thickness of 1/8" (3 mm). Work horizontally or vertically in strips of 40" (1 m) and immediately embed Sto Mesh in the wet Sto Primer/Adhesive-B by troweling from the center to the edges of the mesh. Avoid wrinkles in the mesh and smooth the base coat to eliminate trowel marks. Minimum recommended dry thickness of the reinforced base coat is 1/16" (1.6 mm) when dry. Reapply additional base coat if necessary to achieve minimum thickness as soon as the first application is dry.

As a skim coat: Apply in one application to a maximum thickness of 1/16 (1.6 mm) to the prepared surface and smooth the surface.

Protect from rain, freezing, and continuous high humidity until completely dry.

Sto recommends priming using the appropriate Sto Primer prior to application of finish.

### Curing/Drying

Dries within 24 hours under normal (70° F (21° C), 50% RH] drying conditions. Allow additional drying time during cold and/or humid weather before application of primer and finish to hardened Sto Primer/Adhesive-B. Sto recommends priming using the appropriate Sto Primer prior to finish application.

Clean tools and equipment with water immediately after use. Dried material can only be removed mechanically.

### Limitations

Use Sto Primer/Adhesive-B only when surface and ambient temperatures are above 40° F (4° C) during application and drying period. Sto Primer/ Adhesive-B should not be used on weather exposed

horizontal or below grade surfaces, or where immersion in water may occur.

Sloped surfaces: Refer to Sto details.

Sto Primer/Adhesive-B should not be used as a finish coating. It should not be used over wood surfaces except for wood sheathing surfaces protected by Sto Guard®.

### **Health & Safety**

**Health Precautions** 

Contains Portland cement and crystalline-free silica. Avoid breathing dust.

### **Safety Precautions**

Use adequate ventilation. Safety goggles and protective gloves are recommended. Remove contaminated clothing immediately.

### First Aid

SKIN CONTACT: Wash thoroughly with soap and water. EYE CONTACT: Flush immediately with water for 10-15 minutes and contact a physician. RESPIRATORY PROBLEMS: Remove affected person to fresh air immediately and contact a physician. HYGIENE: Wash hands immediately after use. Wash clothing before re-use.

Collect in an appropriate container. Uncured material may be removed with water.

### Disposal

Dispose in accordance with local, state or federal regulations.

### Warning

KEEP CONTAINER CLOSED WHEN NOT IN USE, KEEP OUT OF REACH OF CHILDREN, NOT FOR INTERNAL CONSUMPTION. FOR INDUSTRIAL USE ONLY. Consult the Material Safety Data Sheet for further health and safety information.

### LIMITED WARRANTY

THIS PRODUCT IS SUBJECT TO A WRITTEN LIMITED WARRANTY WHICH CAN BE OBTAINED FREE OF CHARGE FROM: Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, GA 30331; Tel: 404-346-3666; Fax: 404-346-3119

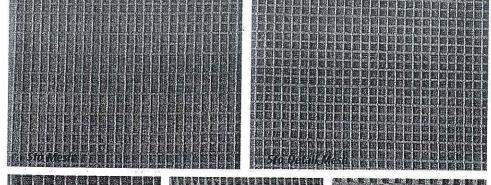
Refer to Sto specifications for more complete information on proper use and handling of this product.

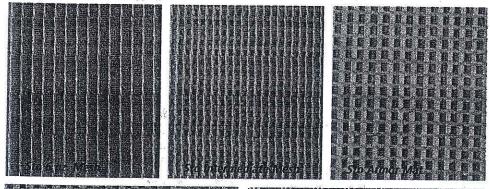
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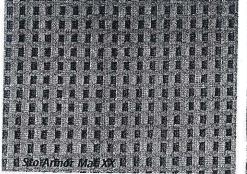
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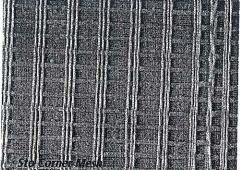


5155-101 02/04 VEN 5609









Technical Data  NOMINAL					Tensile Strength (ASTM D-5035)		Strength - Post Alkaline
DESCRIPTION	WT/SQ. YD. ± 5%	WIDTH LE OF ROLL	ENGTH OF ROLL	COVERAGE/ ROLL (SF2M2)	WARP (PLI)	WEFT (PLI)	Soak (EIMA105.01)
Sto Mesh #920E	4.5 oz.	38" (.97 m) 48" (1.22 m)	150' (45.7 m)	475 ft² (44.1 m²) 600 ft² (55.7 m²)	150	160	Pass
Sto Detail Mesh #919	4.2 oz.	9.5" (24 cm)	150' (45.7 m)	118 ft² (11 m²)	150	160	Pass
Sto 6 oz. Mesh #985	6.0 oz.	38" (.97 m)	150° (45.7 m)	475 ft² (44.1 m²)	140	225	N/A
Sto Intermediate Mesh #918	11 oz.	38" (.97 m)	75' (22.9 m)	238 ft² (22.1 m²)	300	460	N/A
Sto Armor Mat #921	15 oz.	38" (.97 m)	75 <b>' (</b> 22.9 m <b>)</b>	238 ft² (22.1 m²)	350	540	N/A
Sto Armor Mat XX #922	20 oz.	38" (.97 m)	75' (22.9 m)	246 ft² (22.9 m²)	875	500	N/A
Sto Comer Mat #921A	7.6 oz.	9.5" (24 cm)	150' (45.7 m)	118 ft² (11 m²)	N/A	500	N/A

### Impact Resistance

System	Standard (25-49)	Medium (50-89)	) High (90-150)	mpact dassi (over	fication (inch-lbs.)* Ultra High 150)
Sto EIFS with Sto Mesh	Х				***************************************
With 2 layers Sto Mesh		Х			
With Sto Intermediate Mesh			Х		
With Sto Armor Mat & Sto Mesh		Wind all a			X

# Sto Reinforcing Meshes

920E Sto Mesh

919 Sto Detail Mesh

985 Sto 6 oz. Mesh

918 Sto Intermediate Mesh

921 Sto Armor Mat

922 Sto Armor Mat XX

921A Sto Corner Mesh

Division 7

Sto Reinforcing Meshes are specially designed coated glass fiber fabrics used for impact resistance in Sto Insulated Wall Claddings, including Sto EIFS NEXT®. A variety of meshe are provided for design flexibility, maximum performance, and to facilitate application.

### **Features & Benefits**

### **Flexible**

Easily wrapped at corners; provides crack resistance

### Trimmed edges

Minimizes building on overlapped

Coated glass fiber Durable, long-lasting; provides impact resistance

### Variety of weights available Meet a wide variety of requirements



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# **Sto Reinforcing Meshes**

920E Sto Mesh

919 Sto Detail Mesh

985 Sto 6 oz. Mesh

918 Sto Intermediate Mesh

921 Sto Armor Mat

922 Sto Armor Mat XX

921A Sto Corner Mesh

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### Where to Use

Sto Mesh: for use as standard reinforcing fabric in Sto Wall Claddings. Achieves standard impact resistance.

Sto Detail Mesh: lightweight, highly flexible reinforcing fabric specially designed for use to facilitate back-wrapping system terminations, into reveals and for intricate architectural details in Sto Wall Claddings, and to bridge sheathing joints and wrap rough openings in Sto Guard® applications.

Sto 6 oz. Mesh: for use as a standard reinforcing fabric in Sto Wall Claddings. Exceeds standard impact resistance.

Sto Intermediate Mesh: for use as a reinforcing fabric in Sto Wall Claddings. Achieves high impact resistance.

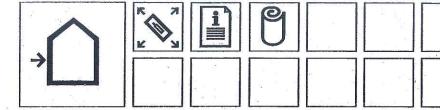
Sto Armor Mat: for use at ground floors and other areas of anticipated impact in Sto Wall Claddings. Achieves ultra-high impact resistance when used beneath Sto Mesh.

Sto Armor Mat XX: Sto's heaviest reinforcing fabric, for use at ground floors and other areas of anticipated impact in Sto Wall Claddings. Exceeds ultra-high impact resistance when used beneath Sto Mesh.

Sto Corner Mesh: A pre-creased, heavy-duty reinforcing fabric, specially designed for use for enhanced impact protection plus crisp lines and ease of application at both inside and outside corners in Sto Wall Claddings.

### Packaging

Sto Mesh: 4 rolls per carton
Sto Detail Mesh: 16 rolls per carton
Sto 6 oz. Mesh: 4 rolls per carton
Sto Intermediate Mesh: 4 rolls per carton
Sto Armor Mat: 2 or 4 rolls per carton
Sto Armor Mat XX: 1 or 2 rolls per carton
Sto Corner Mat: 4 rolls per carton



### Shelf Life

2 years in original, unopened container when properly stored.

### Storage

Store in a dry area. Protect from direct sunlight.

Store in cartons with cartons on side (not upright).

### **Surface Preparation**

Inspect the insulation board surface for planeness, damage or deterioration due to weather or abuse, and repair prior to application of reinforcing mesh. Rasp the insulation board surface.

### Application

Sto Mesh/ Sto 6 oz. Mesh/Sto Intermediate Mesh: Apply a layer of Sto base coat over previously rasped Sto Insulation Board. Work horizontally or vertically in full width strips and fully embed mesh into wet base coat by troweling from center to the edges of the mesh. Avoid wrinkles in the mesh and smooth the base coat to eliminate trowel marks. Double wrap mesh at all corners and overlap not less than 2-½" (64 mm) at mesh joints.

**Sto Detail Mesh/Sto Corner Mesh:** Refer to appropriate Sto Wall Claddings specification.

Sto Armor Mat/Sto Armor Mat XX: Apply a layer of Sto base coat over previously rasped Sto Insulation Board. Work horizontally or vertically in full width strips and immediately embed Sto Armor Mat into the wet base coat. Butt Sto Armor Mat tightly at seams. Apply Sto Mesh with appropriate base coat over the Sto Armor mat application when dry

### Limitations

Sto Reinforcing Meshes should only be used in accordance with appropriate Sto Insulated Wall Cladding Specification or other published recommendations.

### **Health & Safety**

**Health Precautions** 

Contains fiberglass. As with any chemical construction product, exercise care when handling.

### **Safety Precautions**

Use adequate ventilation. Use of a NIOSH/MSAapproved dust respirator, safety goggles and protective gloves is recommended.

### First Aid

SKIN CONTACT: Wash thoroughly with soap and water

EYE CONTACT: Flush immediately with water for 10-15 minutes and contact a physician. RESPIRATORY PROBLEMS: Remove affected person to fresh air immediately and contact a physician.

HYGIENE: Wash hands immediately after use. Wash clothing before re-use.

### Disposal

Dispose in accordance with local, state or federal regulations.

### Warning

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### LIMITED WARRANTY

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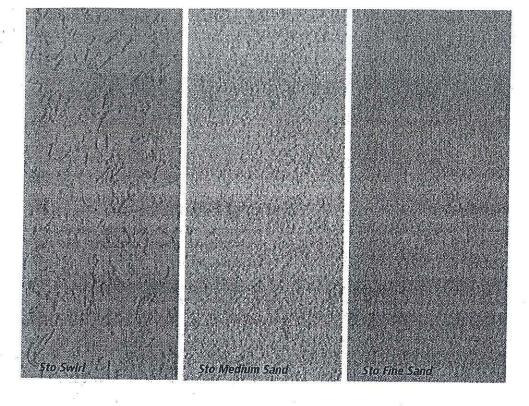
Refer to Sto Specifications for more complete information on proper use and handling of this product.

### Sto Corp.

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### **Technical Data**

TEST METHOD CRITERIA		RESULTS	
Surface Burning	ASTM E-84	< 25 Flame Spread < 450 Smoke Developed	0 5
Flexibility	ASTM D-522	4" mandrel bend	Pass
Water Vapor Transmission (U. S. perms)	ASTM E-96 Method B	28 days	34
Accelerated Weathering	ASTM G-53	2000 hours	No deleterious effects @ 3000 hrs
Chalk Rating	ASTM D-4214	5000 hours	8 (10 = best on scale 1-10)
Yellowness Index	ASTM E-313	5000 hours	0.58 (0 = no change; 2 = barely discernable change)
Freeze-thaw Resistance	EIMA 101.01	60 cycles	No deleterious effects @ 60 cycles
Mildew Resistance	ASTM D-3273	No growth @ 28 days	No growth @ 28 days
Salt Spray Resistance	ASTM B-117	300 hours	No deleterious effects @ 300 hours
Wind Driven Rain	Fed TT-C-555B	24 hour driving rain	No water penetration
Water Resistance	ASTM D-2247	14 days	No deleterious effects @ 28 days
Abrasion Resistance	ASTM D-968	528 qt. sand	No cracking, checking or loss of film integrity @ 528 qts.
Tensile Adhesion (psi)	EIMA 101.03	No failure in the EIFS adhesive, base coat or finish. Minimum 5 psi.	Pass
Adhesion	ASTM C-297	28 days	> 80 to concrete
Fire Resistance	ASTM E-119	No effect on fire resistance rating of existing rated assembly	Pass

# Sto Essence DPR Finishes

307 Sto Swirl Finish306 Sto Medium Sand Finish310 Sto Fine Sand FinishDivision 7

Sto Essence DPR Finishes are ready-mixed, acrylic-based exterior or interior textured finishes used as a decorative and protective wall coatings over prepared vertical concrete, masonry and plaster substrates and in Sto's Essence Wall Claddings, including Sto Essence NEXT®.

### **Features & Benefits**

Vapor permeable
Allows substrate to breathe naturally, resists blisters caused by trapped water vapor

**Moisture resistant**Repels water; resists wind driven rain

Water-based Safe, non-toxic; cleans up with water

**Dirt pick-up resistant**Resists mildew and algae growth;
low maintenance



# **Sto Essence DPR Finishes**

307 Sto Swirl Finish306 Sto Medium Sand Finish310 Sto Fine Sand Finish

Coverage
Sto Swirl Finish: 120-140 ft²
(11.1-13.0 m²) per pail
Sto Medium Sand Finish: 110-130 ft²
(10.2-12.1 m²) per pail
Sto Fine Sand Finish: 140-160 ft²
(13.0-14.9 m²) per pail

Coverages may vary depending on application technique and surface conditions.

Packaging 5 gal. pail (19 L)

# Shelf Life 12 months, if properly stored and sealed.

**Storage**Protect from extreme heat [90° F (32° C)], freezing, and direct sunlight.

### **Surface Preparation**

Concrete and masonry surfaces: Surfaces must be clean, dry, and free of frost, damage, and all bond-nhibiting materials, including dirt, efflorescence, form oil and other foreign matter. Loose or damaged materal must be removed by waterblasting, sandblasting or nechanical wire brushing and repaired. Avoid application over irregular surfaces. Resurface, patch or level surfaces to required tolerance and smoothness with appropriate Sto leveling materials. Refer to ASTM D-1258 and ASTM D-1261 for complete details on nethods of preparing cementitious substrates for coatings.

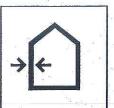
>to Exterior Insulation and Finish Systems EJFS): Surface must be free of all bond-inhibiting naterials.

Sypsum wallboard surfaces: Wallboard nust be taped and fasteners spotted with joint compound. Refer to ASTM C-840 and gypsum wallboard nanufacturer's literature. Surface must be free of dust, lirt and other bond-inhibiting materials. Surface must be primed with appropriate Sto Primer.

to recommends priming cementitious substrates using the appropriate Sto primer prior to application of finish.

### **Vixing**

Aix with a clean, rust-free electric drill and haddle to a uniform consistency. A small amount of lean water may be added to aid workability. Limit addition of water to amount needed to achieve the inish texture.





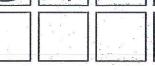












### Application

Apply only to sound and clean, dry, properly prepared, frost-free surfaces.

Trowel: Apply Sto Essence Finishes with a clean stainless steel trowel to a rough thickness slightly more than the largest aggregate size. Use the trowel to scrape the material down to a uniform thickness no greater than the largest aggregate size. Achieve final texture by floating with the appropriate trowel in a figure eight motion; stainless steel trowel for Sto Medium Sand and Sto Fine Sand (pebbled texture finish) and plastic float for Sto Swirl Finish (rilled texture). Once applied, the working time is up to 20 minutes depending upon material, ambient temperatures and surface conditions.

Spray: Apply Sto Essence Finishes with a hand-held gravity-feed hopper-type sprayer, texture spray pump machine, or other appropriate equipment such as the StoSilo system or Sto's M-8 Spray Pump. Apply an even coat to ensure full coverage of the surface. (Spray application is not recommended for Sto Swirl Finish.)

IMPORTANT: ALWAYS check color for proper match. If color does not match, STOP-call your Sto representative. For best results always prime cementitious substrates. Apply coating in a continuous application, always working from a wet edge or architectural break to eliminate cold joints. Minor shade variations may occur from batch to batch (refer to batch no. on pail). Avoid installing separate batches side-by-side and avoid application in direct sunlight. Avoid installing new finish adjacent to weathered or aged finish. Sto Corp. will not be responsible for shade or color variation from batch to batch, variation caused by application or substrate deficiencies, or fading resulting from natural causes such as weather. See Tech Hotline Nos. 0694-C, 0893-EC and 1202-CF for helpful tips on prevention of color problems. Protect installed product from rain, freezing, and continuous high humidity until completely dry.

### Curing/Drying

Sto Essence Finishes dry within 24 hours under normal [70° F (21° C), 50% RH] conditions. Drying time varies with temperature/ humidity and surface conditions.

### Clean Up

Clean tools and equipment with water immediately after use. Dried material can only be removed mechanically.

### Limitations

Use Sto Essence Finishes only when surface and ambient temperatures are above 40° F (4° C) and below 100° F (38° C) during application and drying period. For Exterior Insulation and Finish Systems (FIFS), select finish colors with a lightness value of 20 or greater. Sto Essence Finishes should not be used on weather-exposed horizontal, below grade or water immersed surfaces.

Sloped surfaces: refer to Sto details.

# Health & Safety Health Precautions

Product is water-based. As with any chemical construction product, exercise care when handling.

### **Safety Precautions**

clothing before re-use.

Use adequate ventilation. Safety goggles and protective gloves are recommended. Remove contaminated clothing immediately.

### First Aid

SKIN CONTACT: Wash thoroughly with soap and water. EYE CONTACT: Flush immediately with water for 10-15 minutes and contact a physician. RESPIRATORY PROBLEMS: Remove affected person to fresh air immediately and contact a physician. HYGIENE: Wash hands immediately after use. Wash

### Spille

Collect with suitable absorbent material such as cotton rags.

### Disposal

Dispose in accordance with local, state or federal regulations.

### Warning

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