

TEXAS DEPARTMENT OF INSURANCE

Engineering Services Program / MC 103-3A 333 Guadalupe Street P.O. Box 149104 Austin, Texas 78714-9104
Phone No. (512) 322-2212 Fax No. (512) 463-6693

PRODUCT EVALUATION EC-33

Effective August 1, 2013

*The following product has been evaluated for compliance with the wind loads specified in **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **August 2014**.*

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

The **Sto Exterior Insulation and Finish (EIF) System (STO THERM EIFS and STO THERM EIFS NExT)**, manufactured by

Sto Corporation

P.O. Box 44609

Atlanta, GA 30336-5609

Telephone: (800) 221-2397

will be acceptable in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

The STO THERM EIFS and STO THERM EIFS NExT may be used as an exterior wall finish on buildings. The system consists of five components that are applied to exterior walls sheathed with wood structural panels. The five components consist of: (1) expanded polystyrene (EPS) insulation board with a nominal density of 1 pcf and complying with ASTM C 578, (2) PAB, (3) Sto Reinforcing Fiber Mesh, (4) Sto RFP, PAB, or BTS-Plus Base Coat, and (5) Sto Finishes.

The Sto EIF System with STO Guard moisture protection STO THERM EIFS NExT may be used as an exterior wall finish on buildings. The system consists of the EIFS components described above and a secondary air/moisture barrier, Sto Guard, which is applied to sheathing before the EIFS is installed.

INSTALLATION INSTRUCTIONS

General Installation Requirements:

All fasteners shall be corrosion resistant.

The Sto EIFS shall not be used as wall bracing.

Wind Resistant Assemblies:

Assembly No. 1

Design pressure: -40 psf

Installation: Wall studs shall be minimum 2x4 Stud or No. 3 grade SPF lumber. The studs shall be spaced a maximum of 16 inches on center. Wall bracing shall be installed as required. The wall studs shall be sheathing with minimum $\frac{7}{16}$ inch thick wood structural panels. The wood structural panels shall be fastened to the wall studs with minimum 6d common wire nails spaced a maximum of 6 inches on center along panel edges and a maximum of 12 inches on center along intermediate framing. If the sheathing is used as wall bracing, then the fasteners required for the wall bracing shall be used if they are larger than those required for this product application.

The EIFS shall be applied to the substrate as described in "Application of EIFS to Substrate" at the end of this report.

Assembly No. 2

Design pressure: -90 psf

Installation: Wall studs shall be minimum 2x4 Stud or No. 3 grade SPF lumber. The studs shall be spaced a maximum of 16 inches on center. Wall bracing shall be installed as required. The wall studs shall be sheathing with minimum $\frac{7}{16}$ inch thick wood structural panels. The wood structural panels shall be fastened to the wall studs with minimum 10d common wire nails spaced a maximum of 6 inches on center along panel edges and a maximum of 12 inches on center along intermediate framing.

The EIFS shall be applied to the substrate as described in "Application of EIFS to Substrate" presented below.

**Application of Air/ Moisture Barrier
(Optional)**

The **Sto Gold Guard** is an optional component that forms an air/moisture barrier to protect sheathing during and after construction.

Installation over Exterior or Exposure 1 Plywood, Gypsum Sheathing, and Glass Mat Faced Gypsum Sheathing.

- 1) Protect rough openings, joints, and parapets: apply joint compound, Sto Gold Fill, by trowel over rough openings, sheathing joints, inside and outside corners, and tops of parapets. Immediately, embed reinforcing mesh in the wet joint compound and trowel smooth. Embed minimum four- (4) inch (101 mm) wide mesh at sheathing joints and minimum nine- (9) inch (152) mm wide at rough openings, inside and outside corners and tops of parapets (refer to Sto details for detailed information on proper protection of rough openings and sequencing of work at rough openings).

- 2) Spot fasteners with joint compound.
- 3) Apply waterproof coating, Sto Gold Coat, by roller over sheathing surface, including the dry joint compound, to a uniform wet mil thickness of 10 mils in one coat. Use $\frac{1}{2}$ inch (13 mm) nap roller for plywood and gypsum sheathing. Use $\frac{3}{4}$ inch (19 mm) nap roller for glass mat faced gypsum sheathing. Protect from weather until dry.

Installation Over Exposure I Oriented Strand Board (OSB) Sheathing.

- 1) Apply waterproof coating, Sto Gold Coat, with a $\frac{3}{4}$ inch (19 mm) nap roller to sheathing surface to a uniform wet mil thickness of 10 mils. Protect from weather until dry. Then follow steps 1 through 3 above.

Application of EIFS to Substrate

All components of the EIF System shall be applied over dry surfaces and out of direct sunlight. The EIF System should be installed only when the ambient air temperature is greater than or equal to 40 degrees Fahrenheit. Surfaces shall be clean, dry, unpainted, and free from any residue that may affect the bonding process. Any surface contaminants must be removed without damaging the substrate surface.

Apply a starter strip of Sto Reinforcing Mesh with adhesive to the wall at the base line and at all system terminations such as windows, doors, expansion joints, etc. The starter strip shall be wide enough to adhere approximately 4 inches of mesh onto the wall, be able to wrap around the insulation board, and cover a minimum of $2\frac{1}{2}$ inches on the outside of the insulation board. If Sto Gold Guard is used, apply starter track (Plastic Components, Inc. part no. STDE) at the base of the wall in lieu of the backwrap (see Sto details with Gold Guard moisture protection).

The Sto Dispersion Adhesive shall be mixed to the proper consistency. Apply the adhesive to the back of the insulation board using a $\frac{3}{16} \times \frac{5}{16}$ inch U-notched stainless steel trowel. Apply uniform ribbons of adhesive parallel with the long dimension of the board. Apply ribbons of adhesive parallel with the short dimension of the board when using Sto Gold Guard. Sto BTS-Plus applied with an $\frac{1}{2}$ inch notch trowel may also be used as an adhesive. Place the insulation boards in a running bond pattern on the walls with the long dimension horizontal, starting from a level base line. Apply firm pressure over the entire surface of the insulation board to ensure uniform contact. The insulation board joints shall bridge sheathing joints by a minimum of 8 inches. All joints shall be butted together to eliminate any thermal breaks. *Do not use nails, screws, or any other type of nonthermal mechanical fastener.* Fill in any open joints in the insulation board layer with slivers of insulation board.

After installing the insulation board, apply either Sto RFP, PAB, or BTS-Plus Base Coat over the board using either spray equipment or a stainless steel trowel to a uniform thickness of approximately $\frac{1}{8}$ inch. Work horizontally or vertically in strips of 40 inches and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. The mesh shall be double wrapped at all corners and overlapped not less than $2\frac{1}{2}$ inches at mesh seams and at overlaps of detail mesh. The mesh must be fully embedded so that no mesh color shows through the base coat when it is dry.

Note: If a primer coat is used, apply with a brush, roller, or proper spray equipment over the clean, dry base coat and allow to dry thoroughly before applying finish.

After the base coat has dried, apply the Sto Finish Coat directly over the base coat (or primer coat). Apply the finish by spraying or troweling with a stainless steel trowel. Apply the finish in a continuous application, and work to a wet edge. The finish shall be protected from the weather until dry.

Note: The manufacturer's installation instructions shall be on the job site during the installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions.