DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 24 00—Exterior Insulation and Finish Systems

REPORT HOLDER:
STO CORP.

EVALUATION SUBJECT:
STOTHERM® EIFS: STOTHERM CLASSIC, STOTHERM PREMIER, STOTHERM ESSENCE AND STOTHERM LOTUSAN

1.0 EVALUATION SCOPE

Compliance with the following codes:
- 2018, 2015 and 2012 International Residential Code® (IRC)

For evaluation for compliance with codes adopted by Los Angeles Department of Building and Safety (LADBS), see ESR-1720 LABC and LARC Supplement

Properties evaluated:

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>IBC Chapter</th>
<th>IRC Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior insulation and finish systems (EIFS)</td>
<td>14</td>
<td>R7</td>
</tr>
<tr>
<td>Fire-resistance-rated construction</td>
<td>7</td>
<td>R3</td>
</tr>
<tr>
<td>Weather resistance</td>
<td>14</td>
<td>R7</td>
</tr>
<tr>
<td>Special inspections</td>
<td>17</td>
<td>NA</td>
</tr>
<tr>
<td>Structural – transverse wind load resistance</td>
<td>16</td>
<td>R6</td>
</tr>
<tr>
<td>Types I-IV (noncombustible) construction</td>
<td>26</td>
<td>NA</td>
</tr>
<tr>
<td>Surface burning characteristics</td>
<td>26</td>
<td>R3</td>
</tr>
<tr>
<td>Ignition resistance</td>
<td>26</td>
<td>NA</td>
</tr>
</tbody>
</table>

2.0 USES
StoTherm® systems are exterior insulation and finish systems (EIFS) complying with 2018 IBC Section 1407 (2015 and 2012 IBC Section 1408) and IRC Section 703.9. StoTherm systems may be used in fire-resistance-rated construction and IBC Construction Types I through V, other than framed walls in a Type V, Group R1, R2, R3 or R4 Occupancy Group, when installed in accordance with this report. Under the IRC, the system is limited to use on concrete and masonry walls.

3.0 DESCRIPTION

3.1 System Components:
The StoTherm® systems consist of adhesively applied flat insulation board, reinforcing mesh, base coat, and finish coat. See Tables 1 and 2 for system components.

3.2 Insulation board:
The insulation board must be one of the following:
- Expanded polystyrene (EPS) complying with ASTM C578, Type I, and ASTM E2430, produced by a molder with a current evaluation report.
- EPS insulation board produced by a molder who participates in an approved third-party quality assurance program. EPS must comply with ASTM C578, Type I, and ASTM E2430.
- Sto Insulation Board, which is EPS complying with ASTM C578, Type I, and ASTM E2430.

EPS insulation boards must have a flame spread index of 25 or less and a smoke developed index of 450 or less when tested in accordance with UL 723 or ASTM E84.

3.3 Substrates:
Substrates must be one of the following:
- Gypsum sheathing complying with ASTM C1396 or ASTM C1177.
- Concrete masonry complying with the code.
- Concrete complying with the code.
- Exterior plaster complying with the code.
- Exterior or Exposure 1 wood structural panels complying with DOC PS-1 or PS-2.

3.4 Sealants:
Sealants must comply with ASTM C920, Type S or M, minimum Grade NS, minimum Class 25 and Use O.
4.0 DESIGN AND INSTALLATION

4.1 General:
The StoTherm systems must be installed in accordance with the manufacturer’s installation instructions, specifications and details, which are available at www.stocorp.com:

4.2 Drainage Options:
The StoTherm systems have not been qualified as EIFS with drainage, as described in 2018 IBC Section 1407.4.1 (2015 and 2012 IBC Section 1408.4.1) and IRC Section R703.9.

4.3 Wind Design:
Table 3 presents specific StoTherm EIFS assemblies for which test data has been submitted. Other StoTherm system assemblies may be considered for approval by local officials based on testing and/or calculations provided by a qualified design professional.

4.4 Weather Protection:
The StoTherm systems comply with IBC Section 1403.2 and IRC Section R703.1.1.

4.5 Use in Types I through IV (Noncombustible) Construction:
Table 4 describes the assemblies qualified for use in Types I through IV construction (IBC).

4.6 Fire-resistance-rated Construction:
Table 5 describes the assemblies qualified for use in nonload-bearing fire-resistance-rated construction. (The assemblies are rated from both sides. Therefore the exterior wall does not require a minimum fire separation distance from adjacent construction as specified in IBC Section 705.5).

In Type V construction, any StoTherm system listed in this report may be attached to the surface of combustible exterior fire-resistance-rated assemblies described in IBC Table 721.1(2) without changing the assigned hourly rating of the assembly. The exterior wall must have a minimum 10-foot (3048 mm) separation distance from adjacent construction.

4.7 Special Inspection:
For recognition under the IBC, special inspections of the water-resistive barrier must be conducted in accordance with 2018 and 2015 IBC Section 1705.16 (2012 IBC Section 1704.15). Refer to Sto Corp. third-party inspection guidelines for verifying field preparation of materials.

5.0 CONDITIONS OF USE
The StoTherm EIFS systems described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 Installation must comply with this report, the manufacturer’s published installation instructions and the applicable code. In the event of a conflict between the manufacturer’s instructions and this report, this report governs.

5.2 The insulation board must be separated from the building interior by a thermal barrier complying with the applicable code.

5.3 Use is not permitted in Type V framed construction in Occupancy Groups R1, R2, R3 and R4.

5.4 Installation must be by applicators listed by Sto Corp.

5.5 Termination of the systems must not be less than 6 inches (152 mm) above finished grade in accordance with 2018 and 2015 IBC Section 2603.8 (2012 IBC Section 2603.9) and IRC Section R318.4.

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with ASTM E2568.


7.0 IDENTIFICATION

7.1 Each container or package of the coating or reinforcing mesh used as part of the StoTherm EIFS systems must be labeled with the manufacturer’s name (Sto Corp.) and address; the product name; lot or batch number; quantity of material; storage instructions; pot life; expiration date; and the evaluation report number (ESR-1720).

Sto Insulation Board must be labeled on the edge of each board with the Sto Corp. name, the plant identification number and the evaluation report number (ESR-1720).

Other foam plastic insulation must be labeled in accordance with the current ICC-ES evaluation report in which it is recognized, or as described in Section 3.2.

7.2 The report holder’s contact information is the following:
STO CORP.
3800 CAMP CREEK PARKWAY S.W.
BUILDING 1400, SUITE 120
ATLANTA, GEORGIA 30331
(800) 221-2397
www.stocorp.com
### TABLE 1—STOTHERM EIFS SYSTEM COMPONENTS

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>ADHESIVES</th>
<th>BASE COATS</th>
<th>FINISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>StoTherm Classic</td>
<td>Sto BTS Plus</td>
<td>Sto BTS Plus</td>
<td>Stolit</td>
</tr>
<tr>
<td></td>
<td>Sto BTS Silo</td>
<td>Sto BTS Silo</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sto BTS Xtra</td>
<td>Sto BTS Xtra</td>
<td></td>
</tr>
<tr>
<td>StoTherm Premier</td>
<td>Sto BTS Plus</td>
<td>Sto BTS Plus</td>
<td>StoSilco Lit</td>
</tr>
<tr>
<td></td>
<td>Sto BTS Silo</td>
<td>Sto BTS Silo</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sto BTS Xtra</td>
<td>Sto BTS Xtra</td>
<td></td>
</tr>
<tr>
<td>StoTherm Essence</td>
<td>Sto Primer/Adhesive-B</td>
<td>Sto Primer/Adhesive-B</td>
<td>Sto DPR Finish</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>StoTherm Lotusan</td>
<td>Sto BTS Plus</td>
<td>Sto BTS Plus</td>
<td>StoTherm Lotusan</td>
</tr>
<tr>
<td></td>
<td>Sto BTS Silo</td>
<td>Sto BTS Silo</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sto BTS Xtra</td>
<td>Sto BTS Xtra</td>
<td></td>
</tr>
</tbody>
</table>

1All base coats are reinforced with the appropriate Sto Mesh product listed in Table 2.
2Sto Primer is an optional component of the systems listed above.

### TABLE 2—REINFORCING MESH PRODUCTS

<table>
<thead>
<tr>
<th>PRODUCT NO.</th>
<th>PRODUCT NAME(^1)</th>
<th>NOMINAL WEIGHT, oz/yd(^2) (g/m(^2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>80920E</td>
<td>Sto Mesh</td>
<td>4.5 (153)</td>
</tr>
<tr>
<td>80919</td>
<td>Sto Detail Mesh</td>
<td>4.2 (142)</td>
</tr>
<tr>
<td>80985</td>
<td>Sto 6-oz. (170 g) Mesh</td>
<td>6.0 (170)</td>
</tr>
<tr>
<td>80918</td>
<td>Sto Intermediate Mesh</td>
<td>11.0 (373)</td>
</tr>
<tr>
<td>80921</td>
<td>Sto Armor Mat</td>
<td>15.0 (509)</td>
</tr>
<tr>
<td>80922</td>
<td>Sto Armor Mat XX</td>
<td>20.0 (678)</td>
</tr>
<tr>
<td>80921A</td>
<td>Sto Corner Mat</td>
<td>7.6 (258)</td>
</tr>
</tbody>
</table>

\(^1\)Other listed mesh products may be used for detail construction or to supplement impact resistance of the EIFS.

### TABLE 3—WIND LOAD DESIGN

<table>
<thead>
<tr>
<th>FRAMING MEMBERS(^2)</th>
<th>SHEATHING</th>
<th>ALLOWABLE WIND LOAD CAPACITY, psf</th>
<th>SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thickness, (inch)</td>
<td>Maximum Fastener Spacing(^3), (inches)</td>
<td>Neg.</td>
</tr>
<tr>
<td>Wood, min. size (inches)</td>
<td>Min. Depth (inches)</td>
<td>Min. Gage</td>
<td>Type</td>
</tr>
<tr>
<td>2x4 (nominal)</td>
<td>--</td>
<td>--</td>
<td>16</td>
</tr>
<tr>
<td>--</td>
<td>3 1/2</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>--</td>
<td>3 1/2</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>--</td>
<td>3 1/2</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>--</td>
<td>6</td>
<td>18</td>
<td>16</td>
</tr>
</tbody>
</table>

Concrete or masonry substrates

54 54  Classic Premier

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kPa.

\(^1\)Applicable to all StoTherm materials listed in Tables 1 and 2.
\(^2\)Deflection limitation 1/240, designed in accordance with applicable code.
\(^3\)Fasteners must be No. 6, flathead, corrosion-resistant screws [minimum 0.292-inch (7.4 mm) head diameter].
### TABLE 4—ASSEMBLIES FOR USE IN TYPES I THROUGH IV CONSTRUCTION

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>31/2</td>
<td>18</td>
<td>16</td>
<td>1/2</td>
<td>8 at perimeter 12 in field⁵</td>
<td>1/2</td>
<td>6 at perimeter 8 in field⁴</td>
<td>12</td>
<td>Essence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>31/2</td>
<td>18</td>
<td>16</td>
<td>1/2</td>
<td>6 at perimeter 8 in field⁴</td>
<td>5/8</td>
<td>6 at perimeter 8 in field⁴</td>
<td>12</td>
<td>Classic Premier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm.

¹All board joints backed by framing.
²Fasteners are minimum No. 8, Type S, corrosion–resistant screws, with sufficient length to penetrate framing a minimum of 3/8 inch (9.5 mm).
³Fasteners are Type X gypsum.
⁴Fasteners are No. 6 drywall screws having sufficient length to penetrate framing a minimum of 3/8 inch (9.5 mm).
⁵Fasteners are No. 6 by 1 1/2-inch-long (31.7 mm), buglehead drywall screws.
⁶Stud cavities at floor levels are blocked with Thermafiber insulation (as described in a current ICC-ES evaluation report), 4 lb/ft³ (64 kg/m³) density, 4 inches (102 mm) thick and 2 feet (610 mm) wide.
⁷Stud cavities must be filled with R-11 fiberglass insulation.
⁸Openings must be framed with minimum 0.0428-inch-thick steel framing.

### TABLE 5—FIRE-RESISTANCE-RATED ASSEMBLIES¹²

<table>
<thead>
<tr>
<th>FIRE-RESISTANCE RATING (hrs)</th>
<th>FRAMING MEMBERS</th>
<th>INTERIOR SHEATHING</th>
<th>EXTERIOR SHEATHING</th>
<th>MAXIMUM INSULATION BOARD THICKNESS, MAX. (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min. Depth</td>
<td>Min. Gage</td>
<td>Max. Spacing</td>
<td>Type</td>
</tr>
<tr>
<td>1</td>
<td>31/2</td>
<td>18</td>
<td>16</td>
<td>Type X gypsum³</td>
</tr>
<tr>
<td>2</td>
<td>31/2</td>
<td>18</td>
<td>16</td>
<td>Two layers of Type X gypsum³</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm.

¹Applicable to all StoTherm EIFS materials listed in Table 1.
²All board joints must be blocked.
³Fasteners are minimum No. 6, 1 1/2-inch-long (32 mm), self-tapping, corrosion-resistant, bugle head screws.
⁴Fasteners are Type X gypsum.
⁵Fasteners are No. 6 drywall screws having sufficient length to penetrate framing a minimum of 3/8 inch (9.5 mm).
⁶Interior wallboard joints must be covered with tape and joint compound. Interior fastener heads are covered with joint compound in accordance with ASTM C840 or GA 216.
⁷Fasteners for the base layer of gypsum board are No. 6, 1 1/2-inch-long, self-tapping, corrosion-resistant, bugle-head screws. Fasteners for the face layer are 1 1/2-inch-long, self-tapping, corrosion-resistant, bugle-head screws.
1.0 REPORT PURPOSE AND SCOPE

Purpose:
The purpose of this evaluation report supplement is to indicate that STOTHERM® EIFS: STOTHERM CLASSIC, STOTHERM PREMIER, STOTHERM ESSENCE AND STOTHERM LOTUSAN, described in ICC-ES evaluation report ESR-1720, have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:
- 2020 City of Los Angeles Building Code (LABC)
- 2020 City of Los Angeles Residential Code (LARC)

2.0 CONCLUSIONS

The STOTHERM® EIFS: STOTHERM CLASSIC, STOTHERM PREMIER, STOTHERM ESSENCE AND STOTHERM LOTUSAN, described in Sections 2.0 through 7.0 of the evaluation report ESR-1720, comply with the LABC Chapters 7, 14, and 26, and the LARC Sections R316 and R703, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The STOTHERM® EIFS: STOTHERM CLASSIC, STOTHERM PREMIER, STOTHERM ESSENCE AND STOTHERM LOTUSAN described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-1720.
- The design, installation, conditions of use and identification of the STOTHERM® EIFS: STOTHERM CLASSIC, STOTHERM PREMIER, STOTHERM ESSENCE AND STOTHERM LOTUSAN are in accordance with the 2018 International Building Code® (IBC) or 2018 International Residential Code® (IRC) provisions noted in the evaluation report ESR-1720.
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- The STOTHERM® EIFS: STOTHERM CLASSIC, STOTHERM PREMIER, STOTHERM ESSENCE AND STOTHERM LOTUSAN has not been evaluated under LABC Chapter 7A or LARC Section R337 for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland—Urban Interface Area.

This supplement expires concurrently with the evaluation report, reissued October 2019 and revised March 2020.
1.0 REPORT PURPOSE AND SCOPE

Purpose:
The purpose of this evaluation report supplement is to indicate that StoTherm® EIFS, recognized in ICC-ES main evaluation report ESR-1720, has also been evaluated for compliance with the codes noted below.

Applicable code edition(s):
- 2019 California Building Code (CBC)
- 2019 California Residential Code (CRC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

2.0 CONCLUSIONS

2.1 CBC:
The StoTherm® EIFS, described in Sections 2.0 through 7.0 of the main evaluation report ESR-1720, complies with CBC Chapter 14, provided the design and installation are in accordance with the 2018 International Building Code® (IBC) provisions noted in the main report and the additional requirements of CBC Chapters 14 and 17, as applicable.

The products have not been evaluated under Chapter 7A for use in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Fire Area.

2.1.1 OSHPD:
The applicable OSHPD Sections of the CBC are beyond the scope of this supplement.

2.1.2 DSA:
The applicable DSA Sections of the CBC are beyond the scope of this supplement.

2.2 CRC:
The StoTherm® EIFS, described in Sections 2.0 through 7.0 of the main evaluation report ESR-1720, complies with CRC Chapter 7, provided the design and installation are in accordance with the 2018 International Residential Code® (IRC) provisions noted in the main report.

The products have not been evaluated under CRC Section R337 for use in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Fire Area.

The products recognized in this supplement have not been evaluated for compliance with the International Wildland–Urban Interface Code®.

This supplement expires concurrently with the evaluation report, reissued October 2019 and revised March 2020.
1.0 REPORT PURPOSE AND SCOPE

Purpose:
The purpose of this evaluation report supplement is to indicate that the StoTherm systems recognized in ICC-ES evaluation report ESR-1720 have also been evaluated for compliance with the codes noted below.

Applicable code editions:
- 2017 Florida Building Code—Building
- 2017 Florida Building Code—Residential

2.0 CONCLUSIONS

The StoTherm systems described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-1720 comply with the Florida Building Code—Building and the Florida Building Code—Residential, provided the design is in accordance with the Florida Building Code—Building and the Florida Building Code—Residential as applicable. The installation requirements noted in the ICC-ES evaluation report ESR-1720 for the 2015 International Building Code® meet the requirements of the Florida Building Code—Building and the Florida Building Code—Residential, as applicable, with the following conditions:

1. Installation must meet the requirements of Section 1403.8 of the Florida Building Code—Building or Section R318.7 of the Florida Building Code—Residential, as applicable.
2. Flashing must be in accordance with Section 1405.4 of the Florida Building Code—Building or Section R703.4 of the Florida Building Code—Residential, as applicable.
3. Water-resistive barrier must be in accordance with Section 1408.4.1.1 of the Florida Building Code—Building or Section R703.9.2, of the Florida Building Code—Residential, as applicable.
4. Installation of foam plastic must be in accordance with Section 2603.8 of the Florida Building Code—Building or Section R316.8 of the Florida Building Code—Residential, as applicable.

Use of the StoTherm EIFS systems for compliance with the High-Velocity Hurricane Zone provisions of the Florida Building Code—Building and the Florida Building Code—Residential has not been evaluated, and is outside the scope of this evaluation report.

For products falling under Florida Rule 61G20-3, verification that the report holder’s quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued October 2019 and revised March 2020.