DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 24 00—Exterior Insulation and Finish Systems
Section: 07 24 19—Water-Drainage Exterior Insulation and Finish Systems

REPORT HOLDER:
BASF CORPORATION

EVALUATION SUBJECT:
SENERGY SENERFLEX® CHANNELED ADHESIVE DESIGN AND CHANNELED INSULATION DESIGN EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)

1.0 EVALUATION SCOPE
1.1 Compliance with the following codes:
- 2015 and 2012 International Residential Code® (IRC)

Properties evaluated:

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

1.2 Evaluation to the following green code(s) and/or standards:
- 2016 California Green Building Standards Code (CALGreen), Title 24, Part 11
- 2015 and 2012 International Green Construction Code® (IgCC)

Attributes verified:
- See Section 2.0

2.0 USES

The Senergy Senerflex Channeled Adhesive Design and Channeled Insulation Design Systems are exterior insulation and finish systems (EIFS) complying with IBC Section 1408 and IRC Section R703.9. The systems comply with the requirements of IBC Section 1408.4.1 and IRC Section R703.9 as EIFS with drainage.

The systems may be used in fire-resistance-rated construction and any construction type (IBC Types I through V), when installed in accordance with this report.

The attributes of the Senergy Senerflex Systems have been verified as conforming to the requirements of (i) CALGreen Section 5.407.1 for water-resistive barriers and Section A4.407.5 for air barriers; (ii) 2015 and 2012 IgCC Section 605.1.2.1 for air barriers; (iii) 2014 ASHRAE 189.1 Section 7.3.1.1 and 2011 ASHRAE 189.1 Section 7.4.2.9 for air barriers; (iv) ICC 700-2015 Section 602.1.8, 11.602.1.8 and 12.5.602.1.8; (v) ICC 700-2012 Section 602.1.8, 11.602.1.8 and 12.5.602.1.8; and (vi) ICC 700-2008 Section 602.9 for water-resistive barriers. Note that decisions on compliance for those areas rest with the user of this report.

The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

3.0 DESCRIPTION

3.1 System Components:

The Senerflex Channeled Adhesive Design and Channeled Insulation Design Systems consist of a water-resistive barrier coating, adhesively applied flat or channeled insulation board, reinforcing mesh, base coat and finish coat. See Table 1 for system components.

3.2 Insulation Board:

The insulation board must be one of the following:

a. Senergy Senerflex Channeled Adhesive Design and Channeled Insulation Design insulation board is expanded polystyrene (EPS) complying with ASTM C578, Type I and ASTM E2430; has a flame spread of 25 or less and a smoke developed index of 450 or less when tested in accordance with ASTM E84 or UL 723; is produced by a molder that participates in an approved third-party quality assurance program; and is labeled in accordance with Section 7.0 of this report. Channeled Insulation Design insulation board is a channeled insulation board with vertical channels 1 inch wide by ¼ inch deep (25.4 mm by 6.4 mm) spaced 11 inches (279 mm) apart.
b. EPS insulation board must comply with ASTM C578, Type I, and ASTM E2430, and must be produced by a molder with a current evaluation report.

c. EPS insulation board may be produced by a molder that participates in an approved third-party quality assurance program. The board must comply with ASTM C578, Type I and ASTM E2430; demonstrate a flame spread index of 25 or less and a smoke developed index of 450 or less when tested in accordance with ASTM E84 or UL 723; and be labeled in accordance with Section 7.0.

3.3 Substrates:
- Gypsum sheathing complying with ASTM C1396 or ASTM C1177
- Fiber cement panels complying with the ICC-ES Acceptance Criteria for Fiber Cement Siding Used as Exterior Wall Siding (AC90), and ASTM C1186
- Fiber cement panels complying with the ICC-ES Acceptance Criteria for Reinforced Cementitious Sheets Used as Wall and Ceiling Sheathing and Floor Underlayment (AC376), and ASTM C1325
- 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
- Brick masonry complying with the code

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 Senerflex Channeled Adhesive Design and Channeled Insulation Design Systems must be installed in accordance with the manufacturer’s installation instructions, specifications and details available at www.senergy.basf.com.

4.2 Drainage Options:
- Senergy Senerflex Channeled Adhesive Design: vertical ribs of adhesive with flat insulation board.
- Senergy Senerflex Channeled Insulation Design: vertical ribs of adhesive with channeled insulation board.

4.3 Wind Design:
Table 2 describes specific assemblies for which test data has been submitted. Other assemblies may be considered for approval by local officials based on testing and/or calculations of a qualified design professional.

4.4 Weather Protection:
The Senerflex Channeled Adhesive Design and Channeled Insulation Design Systems comply with IBC Section 1403.2 and IRC Section R703.1.1.

4.5 Use in Types I through IV (Noncombustible) Construction:
Table 3 describes the assemblies qualified for use in Types I through IV construction (IBC).

4.6 Fire-resistance-rated Construction:
Table 4 describes the assemblies qualified for use in nonload-bearing fire-resistance-rated construction.

In addition, in Type V construction, the Senerflex Channeled Adhesive Design and Channeled Insulation Design Systems 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 Inspections:
For recognition under the IBC, special Inspections of the water-resistive barrier coating must be conducted in accordance with the 2015 IBC Section 1705.16 (2012 IBC Section 1705.15).

5.0 CONDITIONS OF USE
The Senerflex Channeled Adhesive Design and Channeled Insulation Design 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 Installation must be by applicators listed by BASF Corporation.

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

6.0 EVIDENCE SUBMITTED

6.1 Reports of tests in accordance with ASTM E2568 and ASTM E2273.

6.2 Data in accordance with the ICC-ES Acceptance Criteria for EIFS Clad Drainage Wall Assemblies (AC235), dated January 2015.

6.3 Data in accordance with the ICC-ES Acceptance Criteria for Water-resistive Coatings Used as Water-resistive Barriers over Exterior Sheathing (AC212), dated February 2015.

6.4 Data in accordance with the ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12), dated June 2015 (editorially revised May 2016).

7.0 IDENTIFICATION

7.1 Each container or package of the coating or reinforcing mesh used as part of the Senerflex Channeled Adhesive Design and Channeled Insulation Design Systems must be labeled with the manufacturer’s name (BASF Corporation) and address; the product name; lot or batch number; quantity of material; storage instructions; pot life; expiration date; and the evaluation report number (ESR-1878).

Senerflex Channeled Adhesive Design and Channeled Insulation Design Systems insulation board must be labeled on the edge of each board with the BASF Corporation name, the plant identification number and the evaluation number (ESR-1878).

Other foam plastic insulation must be labeled in accordance with the current ICC-ES evaluation report in which it is recognized, or in accordance with IBC Sections 2603.2 and 2603.5.6, or IRC Section 316.2, as applicable.

7.2 The report holder’s contact information is the following:

BASF CORPORATION
3550 ST. JOHNS BLUFF ROAD SOUTH
JACKSONVILLE, FLORIDA 32224
(904) 996-6000
www.wallsystems.basf.com
TABLE 1—SYSTEM COMPONENTS

<table>
<thead>
<tr>
<th>SYSTEM DESCRIPTION</th>
<th>WATER-RESISTIVE BARRIER OPTIONS</th>
<th>ADHESIVE OPTIONS</th>
<th>BASE COAT OPTIONS</th>
<th>REINFORCING MESH</th>
<th>FINISH OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channeled Adhesive Design</td>
<td>Senershield</td>
<td>Standard Base</td>
<td>Standard Base</td>
<td>Flexguard 4, 4.2 oz/yd², minimum¹</td>
<td>Senerflex</td>
</tr>
<tr>
<td>Channeled Insulation Design</td>
<td>Senershield-R</td>
<td>Alpha Base</td>
<td>Alpha Base</td>
<td></td>
<td>Silcoat</td>
</tr>
<tr>
<td></td>
<td>MasterSeal AWB 660</td>
<td>Alpha Dry Base</td>
<td>Alpha Dry Base</td>
<td>Senerlastic</td>
<td>Senerlastic Plus</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Senerlastic Plus</td>
<td>ASAP²</td>
</tr>
</tbody>
</table>

¹Higher weight meshes are allowable.
²For aesthetic conditions, ASAP is applied over dry base coat at joints before installation of sealant.

TABLE 2—WIND LOAD DESIGN

<table>
<thead>
<tr>
<th>FRAMING³</th>
<th>SUBSTRATE</th>
<th>EPS</th>
<th>ALLOWABLE WIND LOAD (psf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2x4 Wood¹</td>
<td>Min 7/16 inch wood structural panel, attached in accordance with the code</td>
<td>1</td>
<td>Systems described in Table 1 using Senershield-R</td>
</tr>
<tr>
<td>3½-inch by No. 20 gage steel</td>
<td>ASTM C1396 gypsum sheathing or ASTM C177 glass-mat gypsum sheathing, attached with #6 x 1½-inch buglehead screws at 8 inches on center</td>
<td>1</td>
<td>Systems described in Table 1 using Senershield-R</td>
</tr>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>Concrete or concrete-masonry</td>
<td>1</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm; 1 psf = 0.0479 kPa.
¹Minimum 2x4 wood framing, minimum specific gravity 0.42.
²Maximum positive pressure is limited to the capacity of the concrete or concrete masonry substrate, determined in accordance with the applicable code.
³The framing members must be designed to resist all positive and negative transverse loads with a maximum allowable deflection of 1/240 of the span.

TABLE 3—ASSEMBLIES²,³ FOR USE IN TYPES I THROUGH IV CONSTRUCTION

<table>
<thead>
<tr>
<th>FRAMING MEMBERS</th>
<th>INTERIOR SHEATHING</th>
<th>EXTERIOR SHEATHING</th>
<th>INSULATION BOARD THICKNESS MAXIMUM (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type¹</td>
<td>Min. Thickness (inch)</td>
<td>Max Fastener Spacing (inches)</td>
<td>Type¹</td>
</tr>
<tr>
<td>Steel</td>
<td>Min. Depth (inches)</td>
<td>Min. Gage</td>
<td>Type¹</td>
</tr>
<tr>
<td>3½º</td>
<td>20</td>
<td>oc</td>
<td>ASTM C36 or ASTM C1396</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm.
¹The fasteners are #6 x 1½-inch-long bugle head screws.
²Coating system is as described in Table 1.
³When applied directly to concrete or masonry, the walls may be considered noncombustible construction.

TABLE 4—FIRE-RESISTANCE RATED ASSEMBLIES²,³

<table>
<thead>
<tr>
<th>FRAMING MEMBERS</th>
<th>INTERIOR SHEATHING</th>
<th>EXTERIOR SHEATHING</th>
<th>INSULATION BOARD THICKNESS MAXIMUM (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type¹</td>
<td>Min. Thickness (inch)</td>
<td>Max Fastener Spacing (inches)</td>
<td>Type¹</td>
</tr>
<tr>
<td>Steel</td>
<td>Min. Depth (inches)</td>
<td>Min. Gage</td>
<td>Type¹</td>
</tr>
<tr>
<td>3½º</td>
<td>18</td>
<td>oc</td>
<td>ASTM C36 or ASTM C1396</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm.
¹The fasteners are #6 x 1½-inch-long bugle head screws.
²Coating system is as described in Table 1.
³Rated from both sides.
DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION  
Section: 07 24 00—Exterior Insulation and Finish Systems  
Section: 07 24 19—Water-Drainage Exterior Insulation and Finish System

REPORT HOLDER:  
BASF CORPORATION

EVALUATION SUBJECT:  
SENERGY SENERFLEX® CHANNELED ADHESIVE DESIGN AND CHANNELED INSULATION DESIGN EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)

1.0 REPORT PURPOSE AND SCOPE

Purpose:  
The purpose of this evaluation report supplement is to indicate that Senergy Senerflex® Channeled Adhesive Design and Channeled Insulation Design Exterior Insulation and Finish Systems (EIFS), recognized in ICC-ES evaluation report ESR-1878, has also been evaluated for compliance with the codes noted below.

Applicable code edition(s):  
- 2016 California Building Code® (CBC)
- 2016 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 Senergy Senerflex® Channeled Adhesive Design and Channeled Insulation Design Exterior Insulation and Finish Systems (EIFS), described in Sections 2.0 through 7.0 of the master evaluation report ESR-1878, comply with CBC Chapters 14 and 26, provided the design and installation are in accordance with the 2015 International Building Code® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 14, 16, 17 and 26, 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 Senergy Senerflex® Channeled Adhesive Design and Channeled Insulation Design Exterior Insulation and Finish Systems (EIFS), described in Sections 2.0 through 7.0 of the evaluation report ESR-1878, comply with CRC Chapters 3 and 7, provided the design and installation are in accordance with the 2015 International Residential Code® (IRC) provisions noted in the evaluation 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 November 2019.