ICC-ES Evaluation Report

ESR-1878

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Subject to renewal November 2025

This report also contains:

- CA Supplement

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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: SIKA CORPORATION	EVALUATION SUBJECT: SENERGY SENERFLEX® CHANNELED ADHESIVE DESIGN, CHANNELED INSULATION DESIGN EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS) AND SENERGY CHANNELED ADHESIVE CI DESIGN WITH MAXGRIP VENEER ADHESIVE AND SENERFLEX VULCAN NC	

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2024, 2021, 2018, and 2015 *International Building Code®* (IBC)
- 2024, 2021, 2018, and 2015 *International Residential Code®* (IRC)

Main references of this report are for 2024 IBC and IRC. See Table 1 for applicable sections of the code for previous IBC and IRC editions.

- **Property evaluated:**

PROPERTY	IBC CHAPTER	IRC CHAPTER
Weather resistance	14	R7
Structural – transverse wind load resistance	16	R6
Fire-resistance-rated construction	7	R3
Types I – IV (noncombustible) construction	26	NA
Ignition resistance	26	NA
Special Inspections	17	NA
Exterior insulation and finish systems (EIFS)	14	R7
Surface burning characteristics	26	R3
Shear bond strength	14	R7

1.2 Evaluation to the following green codes and/or standards:

- 2022 and 2019 California Green Building Standards Code (CALGreen), Title 24, Part 11
- 2024, 2021, 2018, 2015 and 2012 International Green Construction Code® (IgCC)
- 2023, 2020, 2017, 2014 and 2011 ANSI/ASHRAE/USGBC/IES Standard 189.1–Standard for the Design of High-Performance Green Buildings, Except Low-Rise Residential Buildings
- 2020, 2015, 2012 and 2008 ICC 700 National Green Building Standard™ (ICC 700-2020, ICC 700-2015, ICC 700-2012 and ICC700-2008)

Attributes verified:

- See Section 2.0

2.0 USES

The Senergy Senerflex Channeled Adhesive Design, Channeled Insulation Design Channeled Adhesive CI Design with Maxgrip Veneer Adhesive and Senerflex Vulcan NC Systems are exterior insulation and finish systems (EIFS) complying with IBC Section 1407 and IRC Section R703.9. The systems comply with the requirements of IBC Section 1407.4.1 and IRC Section R703.9 as EIFS with drainage. Channeled Adhesive CI Design with MaxGrip Veneer Adhesive also complies with the requirements of IBC Section 1404.11 and IRC Section R606.2.

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; (ii) 2021 IgCC Section 701.3.1.2 for air barriers; (iii) 2018 IgCC Section 701.3.1.1 for air barriers; (iv) 2015 and 2012 IgCC Section 605.1.2.1 for air barriers; (v) 2020 ASHRAE 189.1 Section 7.3.1.2, 2017 and 2014 ASHRAE 189.1 Section 7.3.1.1 and 2011 ASHRAE 189.1 Section 7.4.2.9 for air barriers; (vi) ICC 700-2020 Section 602.1.8, 11.602.1.8, 1202.6 and 13.104.1.4; (vii) ICC 700-2015 Section 602.1.8, 11.602.1.8 and 12.6.602.1.8; (viii) ICC 700-2012 Section 602.1.8, 11.602.1.8 and 12.5.602.1.8; and (ix) 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, Channeled Insulation Design and Channeled Adhesive CI Design with Maxgrip Veneer Adhesive Systems consist of a water-resistive barrier coating, adhesively applied flat or channeled insulation board, reinforcing mesh, base coat and finish coat. See Table 2 for system components.

The Senerflex Vulcan NC consists of a water-resistive barrier coating, adhesive, mineral wool insulation board, mechanical fasteners, reinforcing mesh, base coat and finish coat. See Table 2 for system components.

3.2 Insulation Board:

The insulation board must be one of the following:

a. Senergy Senerflex Channeled Adhesive Design, Channeled Insulation Design and Channeled Adhesive CI Design with MaxGrip Veneer Adhesive 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 $^1/_4$ 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.

d. For Senerflex Vulcan NC, insulation board is mineral wool complying with ASTM C612. The nominal dimensions are 2 feet by 4 feet (610 by 1220 mm) with a thickness of $1^1/_2$ inches (38 mm) to 4 inches (102 mm). The board must be a noncombustible material in accordance with ASTM E136 and ASTM E84 or UL 723 having a flame spread index not exceeding 25 and a smoke developed index not exceeding 450.

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.

3.5 Mineral Wool Insulation Board Fasteners for Senerflex Vulcan NC:

Wind-Lock ULP-302 plates, 1 ¼ inch diameter (31.8 mm) polypropylene plastic and minimum #8 corrosion resistant steel screws; 9 fasteners per insulation board.

4.0 DESIGN AND INSTALLATION

4.1 General:

The Senerflex Channeled Adhesive Design, Channeled Insulation Design, Channeled Adhesive CI Design with Maxgrip Veneer Adhesive and Senerflex Vulcan NC Systems must be installed in accordance with the manufacturer's installation instructions, specifications and details available at usa.sika.com/senergy.

4.2 Drainage Options:

- Senergy Senerflex Channeled Adhesive Design: vertical ribbons of adhesive with flat insulation board.
- Senergy Senerflex Channeled Insulation Design: vertical ribbons of adhesive with channeled insulation board.
- Channeled Adhesive CI Design with MaxGrip Veneer Adhesive: vertical ribbons of adhesive with flat insulation board.
- Senerflex Vulcan NC: vertical ribbons of adhesive with flat mineral wool insulation board

4.3 Wind Design:

Table 3 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, Channeled Insulation Design, Channeled Adhesive CI Design with Maxgrip Veneer Adhesive and Senerflex Vulcan NC Systems comply with IBC Section 1402.2 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.

In addition, in Type V construction, the Senerflex Channeled Adhesive Design, Channeled Insulation Design and Channeled Adhesive CI Design with Maxgrip Veneer Adhesive and Senerflex Vulcan NC 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 IBC Section 1705.17.1.

5.0 CONDITIONS OF USE:

The Senerflex Channeled Adhesive Design, Channeled Insulation Design, Channeled Adhesive CI Design with Maxgrip Veneer Adhesive and Senerflex Vulcan NC 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 Sika Corporation.

5.4 Termination of the systems must not be less than 6 inches (152 mm) above finished grade in accordance with the IBC Section 2603.8 and IRC Section R305.4.

5.5 The Channeled Adhesive CI Design with MaxGrip Veneer Adhesive System must comply with the following:

5.5.1 The system is limited to use with manufactured stone masonry veneer in compliance with ASTM C1670 in jurisdictions adopting 2024, 2021, or 2018 IBC or IRC, or precast stone veneer recognized in a current ICC-ES evaluation report demonstrating compliance with the ICC-ES Acceptance Criteria for Precast Stone Veneer (AC51) with installation of the precast stone veneer in accordance with applicable requirements of the precast stone veneer manufacturer's report and IBC Section 1404.11. Thin brick veneer units must comply with the applicable requirements of ASTM C1088.

5.5.2 The thickness of the insulation board must not exceed 4 inches (102 mm).

5.5.3 Adhered masonry veneer units shall not exceed 15 lbs/ft^2 (73 Kg/m^2) with no unit greater than 30 pounds (13.2 kg).

5.5.4 In jurisdictions adopting the IBC, the supporting wall must be designed to support the installed weight of the adhered veneer system. At wall opening, the supporting members must be designed to limit deflection to 1/600 of the span of the supporting members.

5.5.5 In jurisdictions adopting the IRC, where the seismic provisions of IRC Section R301.2.2 apply, the average weight of the wall including the weight of the adhered veneer must be determined. Where this weight exceeds the applicable limits of IRC Section R301.2.2.2, an engineered design of the wall must be performed in accordance with IRC Section R301.1.3.

5.6 The products are manufactured under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for EIFS Clad Drainage Wall Assemblies (AC235), dated January 2015, (editorially revised July 2024).

6.2 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 (editorially revised June 2024).

6.3 Data in accordance with the ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12), dated June 2015 (editorially revised June 2024).

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

6.5 Reports of tests in accordance with NFPA 285, NFPA 268, ASTM E84 and ASTM E119.

6.6 Report of tests in accordance with ASTM C482, ASTM E2134, ASTM E2485, ASTM E330 and ASTM C273.

7.0 IDENTIFICATION

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

Senerflex Channeled Adhesive Design, Channeled Insulation Design and Channeled Adhesive CI Design with Maxgrip Veneer Adhesive Systems insulation board must be labeled on the edge of each board with the Sika 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 Rok303.2, as applicable.

Precast stone veneer units must be labeled in accordance with the requirements of AC51.

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

SIKA CORPORATION
201 POLITO AVENUE
LYNDHURST, NEW JERSEY 07071
(800) 589-1336
usa.sika.com/senergy

TABLE 1—APPLICABLE SECTIONS OF THE IBC AND IRC UNDER EDITIONS OF THE CODES

IBC			
2024	**2021**	**2018**	**2015**
1402.2			1403.2
1404.11	1404.10		1405.10
1407			1408
1407.4.1			1408.4.1
1705.17		1705.16	
2603.2			
2603.5.6			
2603.8			
IRC			
2024	**2021**	**2018**	**2015**
R301.1.3			
R301.2.2			
R301.2.2.2		R301.2.2.2.1	
R303.2	R316.2		
R305.4	R318.4		
R606.2			
R703.1.1			
R703.9			

TABLE 2—SYSTEM COMPONENTS

SYSTEM	WATER-RESISTIVE BARRIER OPTIONS	ADHESIVE OPTIONS	BASE COAT OPTIONS	REINFORCING MESH	FINISH OPTIONS
Channeled Adhesive Design	Senershield-R	Alpha Base Alpha Dry Base	Alpha Base Alpha Dry Base	Flexguard 4, 4.2 oz/yd, minimum[1]	Senerflex Senerlastic Plus
Channeled Insulation Design					
Channeled Adhesive CI Design with Maxgrip Veneer Adhesive	Senershield-R	Alpha Base Alpha Dry Base	Alpha Base Alpha Dry Base	Intermediate 12 11 oz/yd (Flexguard 4 used for backwrapping)	Adhered Masonry Veneer adhered with Maxgrip Veneer Adhesive[2]
Senerflex Vulcan NC	Senershield-R	Alpha Base Alpha Dry Base	Alpha Base Alpha Dry Base	Flexguard 4, 4.2 oz/yd, minimum[1]	Senerflex Senerlastic Plus

[1]Higher weight meshes are allowable.
[2]See Section 5.5.

TABLE 3—WIND LOAD DESIGN

FRAMING[3]		SUBSTRATE	EPS		
Type	**Maximum Spacing (inches)**		**EPS Min. Thickness (inch)**	**Coating**	**Allowable Wind Load (psf)**
2x4 Wood[1]	16	Min $^{7}/_{16}$ inch wood structural panel, attached in accordance with the code	1	Systems described in Table 2 using Senershield-R	25 positive 67 negative
$3^{5}/_{8}$-inch by No. 20 gage steel		ASTM C1396 gypsum sheathing or ASTM C1177 glass-mat gypsum sheathing, attached with #6 x $1^{1}/_{4}$-inch buglehead screws at 8 inches on center	1	Systems described in Table 2 using Senershield-R	18 positive 21 negative
$3^{5}/_{8}$-inch by No. 20 gage steel		ASTM C1325 cement board, ASTM C1396 gypsum sheathing or ASTM C1177 glass-mat gypsum sheathing, attached with #8 x $1^{1}/_{4}$- inch buglehead screws at 8 inches on center on edges and 12 inches on center in the field	1	Systems described in Table 2 using Senershield	31 positive 23 negative
N/A	N/A	Concrete or concrete-masonry	1	Systems described in Table 2	Positive – see note 2 30 negative
Senerflex Vulcan NC					
2x4 Wood[1]	16	Min $^{7}/_{16}$ inch wood structural panel, attached in accordance with the code	$2^{1}/_{2}$ Mineral Wool	Systems described in Table 2 using Senershield-R	47 positive 64 negative
$3^{5}/_{8}$-inch by No. 20 gage steel	16	Min $^{1}/_{2}$ inch ASTM C1177 glass-mat gypsum sheathing, attached #6 x $1^{1}/_{4}$-inch bulglehead screw at 8 inches on center on edges and 12 inches on center in the field	$2^{1}/_{2}$ Mineral Wool	Systems described in Table 2 using Senershield-R	58 positive 38 negative

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

[1]Minimum 2x4 wood framing, minimum specific gravity 0.42.
[2]Maximum positive pressure is limited to the capacity of the concrete or concrete masonry substrate, determined in accordance with the applicable code.
[3]The 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 4—ASSEMBLIES[2,3] FOR USE IN TYPES I THROUGH IV CONSTRUCTION

SYSTEMS	FRAMING MEMBERS			INTERIOR SHEATHING			EXTERIOR SHEATHING			INSULATION BOARD THICKNESS MAXIMUM (inches)
	Steel		Max. Spacing (inches)	Type[1]	Min. Thickness (inch)	Max Fastener Spacing (inches)	Type[1]	Min. Thickness (inch)	Max. Fastener Spacing (inches)	
	Min. Depth (inches)	Min. Gage								
Channeled Adhesive Design Channeled Insulation Design	3 5/8	20	16 oc	ASTM C36 or ASTM C1396	1/2	8 oc along edges, 12 oc in field	ASTM C1396	1/2	8 oc	12
Channeled Adhesive CI Design with Maxgrip Veneer Adhesive										4
Senerflex Vulcan NC										4[4]

For **SI:** 1 inch = 25.4 mm.

[1]The fasteners are #6 x 1 1/4- inch-long bugle head screws.
[2]Coating system is as described in Table 2.
[3]When applied directly to concrete or masonry, the walls may be considered noncombustible construction.
[4]For the Senerflex Vulcan NC, the insulation is mineral wool.

TABLE 5—FIRE-RESISTANCE RATED ASSEMBLIES[2,3]

FRAMING MEMBERS			INTERIOR SHEATHING			EXTERIOR SHEATHING			INSULATION BOARD THICKNESS MAXIMUM (inches)
Steel		Max Spacing (inches)	Type[1]	Min Thickness (inch)	Max Fastener Spacing (inches)	Type[1]	Min Thickness (inch)	Max Fastener Spacing (inches)	
Min Depth (inches	Min Gage								
3 5/8	18	16 oc	ASTM C36 or ASTM C1396 Type X	5/8	8 oc along edges, 12 oc in field	ASTM C1396 Type X	5/8	8 oc along edges, 12 oc in field	4[4]

For **SI:** 1 inch = 25.4 mm.

[1]The fasteners are #6 x 1 1/4- inch-long bugle head screws.
[2]Coating system is as described in Table 2.
[3]Rated from both sides.
[4]For Senerflex Vulcan NC the insulation is mineral wool.

ICC-ES Evaluation Report

ESR-1878 CA Supplement

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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:

SIKA CORPORATION

EVALUATION SUBJECT:

SENERGY SENERFLEX® CHANNELED ADHESIVE DESIGN, CHANNELED INSULATION DESIGN EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS) AND SENERGY CHANNELED ADHESIVE CI DESIGN WITH MAXGRIP VENEER ADHESIVE AND SENERFLEX VULCAN NC

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Senergy Senerflex® Channeled Adhesive Design, Channeled Insulation Design, Channeled Adhesive CI Design with Maxgrip Veneer Adhesive and Senerflex Vulcan NC Systems, described in ICC-ES evaluation report ESR-1878, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2022 *California Building Code*® (CBC)

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

- 2022 *California Residential Code*® (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The Senergy Senerflex® Channeled Adhesive Design, Channeled Insulation Design, Channeled Adhesive CI Design with Maxgrip Veneer Adhesive and Senerflex Vulcan NC Systems, described in Sections 2.0 through 7.0 of the evaluation report ESR-1878, comply with CBC Chapters 14 and 26, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 14, 16, 17 and 26, as applicable.

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, Channeled Insulation Design, Channeled Adhesive CI Design with Maxgrip Veneer Adhesive and Senerflex Vulcan NC Systems, 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 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued November 2023 and revised April 2025.