

ICC-ES Evaluation Report

ESR-4500

Reissued December 2023

Revised April 2024


Subject to renewal December 2024

This report also contains:

- LABC Supplement
- CBC Supplement
- FBC Supplement

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

Copyright © 2024 ICC Evaluation Service, LLC. All rights reserved.

| | | | |
|--|---|--|---|
| <p>DIVISION: 07 00 00 — THERMAL AND MOISTURE PROTECTION</p> <p>Section: 07 24 00 — Exterior Insulation and Finish Systems</p> <p>Section: 07 24 19 — Water-Drainage Exterior Insulation and Finish System</p> | <p>REPORT HOLDER: STO CORP.</p> <p>ADDITIONAL LISTEES: KAPTURE PREFAB</p> <p>CENTERLINE PREFAB, LLC</p> <p>JERSEY PANEL</p> <p>FL CRANE AND SONS INC.</p> <p>FORGE CFS COMPONENTS, LLC.</p> <p>WAL-MARK PREFABRICATION, LLC</p> <p>PRECISION WALLS PREFAB</p> <p>BAKER TRIANGLE PREFAB, LTD</p> | <p>EVALUATION SUBJECT: STOPANEL® CLASSIC ci, STOPANEL® GPS ci, STOPANEL® IMPACT ci, STOPANEL® XPS, STOPANEL® CLASSIC NEXT ci, STOPANEL® BACKUP, STOPANEL® MVES ci, AND STOPANEL® ci WITH STOCAST FINISH</p> |  |
|--|---|--|---|

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021 and 2018 [International Building Code® \(IBC\)](#)
- 2021 and 2018 [International Energy Conservation Code® \(IECC\)](#)

For evaluation for compliance with codes adopted by [Los Angeles Department of Building and Safety \(LADBS\)](#), see [ESR-4500 LABC Supplement](#).

Properties evaluated:

| PROPERTY | IBC Chapter |
|---|-------------|
| Exterior insulation and finish systems (EIFS) | 14 |
| Fire-resistance-rated construction | 7 |
| Weather resistance | 14 |
| Special inspections, Types I-IV (noncombustible) construction | 17 |
| Structural – transverse wind load resistance | 16 |
| Types I-IV (noncombustible) construction | 26 |
| Surface burning characteristics | 26 |
| Ignition resistance | 26 |

2.0 USES

StoPanel[®] Classic ci, StoPanel[®] GPS ci, StoPanel[®] Impact ci, StoPanel[®] XPS, StoPanel[®] Classic NEXT ci, StoPanel[®] MVES ci, and StoPanel[®] ci with StoCast Finish assemblies are prefabricated exterior continuous insulation complying with 2021 and 2018 IBC Section 1407. The systems comply with the requirements of 2021 and 2018 IBC Section 1407.4.1 as EIFS with drainage. They are also used as air barrier materials in accordance with the 2021 and 2018 IECC Sections C402.5 and R402.4.

StoPanel[®] Classic ci, StoPanel[®] GPS ci, StoPanel[®] Impact ci, StoPanel[®] XPS, StoPanel[®] Classic NEXT ci, StoPanel[®] MVES ci, and StoPanel[®] ci with StoCast Finish assemblies may be installed in buildings of any construction type under the IBC (Types I through V) when installed in accordance with the applicable sections of Section 4.0.

2.1 StoPanel[®] Backup (StoGuard[®] Applied to Prefabricated Panels):

StoPanel[®] Backup may be used in all types of construction. When used in Types I, II, III and IV construction, the wall assemblies must comply with Section 4.5 of this report.

3.0 DESCRIPTION

3.1 System Components:

StoPanel[®] Classic ci Classic, StoPanel[®] GPS ci, StoPanel[®] Impact ci, StoPanel[®] XPS, StoPanel[®] Classic NEXT ci, StoPanel[®] MVES ci, and StoPanel[®] ci with StoCast Finish assemblies consist of a water-resistive barrier, adhesively applied flat insulation board, reinforcing mesh, base coat, and finish coat.

StoPanel[®] MVES ci has an adhered masonry veneer with grout.

StoPanel[®] ci with StoCast Finish has factory prefabricated finish materials that simulate the appearance of wood, brick, stone or other architectural finishes.

See [Table 1](#) for system components.

3.1.1 StoPanel[™] Backup:

StoPanel[®] Backup must be constructed using StoGuard[®] Air Barrier and Water-resistive barrier products as evaluated in ESR-1233 and Section 4.0 of this report.

3.2 Insulation Board:

The insulation boards must be one of the following:

- a. Expanded polystyrene (EPS) complying with ASTM C578, Type I, and ASTM E2430, produced by a molder with a current ICC-ES evaluation report.
- b. 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.
- c. Sto Insulation Board, EPS complying with ASTM C578, Type I, and ASTM E2430.
- d. Sto GPS Board, graphite enhanced polystyrene insulation board complying with ASTM C578, Type 1, and ASTM E2430.
- e. Owens Corning[®] Foamular CI-C or NGX[™] CI-C Extruded Polystyrene Type X (for use with the StoPanel[®] XPS system as noted in [Table 1](#)).
- f. Dow Styrofoam Panel Core Type X recognized in [ESR-2142](#) (for use with the StoTherm[®] ci[®] XPS system noted in [Table 1](#)). Dupont Styrofoam[™] Brand Panel Core ST-100 Type X recognized in ESR-4755 (for use with the StoPanel[®] XPS system noted in [Table 1](#)).
- g. 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 ASTM E84 or UL 723.

3.3 Substrates:

Substrates must be one of the following:

- a. Gypsum sheathing board complying with ASTM C1396 or ASTM C1177. When used as part of a fire-resistance-rated assembly, the gypsum board must be Type X with a minimum thickness of $\frac{5}{8}$ inch (15.9 mm).

- b. Concrete masonry complying with the code.
- c. Concrete complying with the code.
- d. Exterior plaster complying with the code.
- e. 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:

StoPanel[®] ci assemblies listed below are prefabricated using applicable Sto materials listed in Table 1. Sto materials listed in Table 1 must be installed in accordance with Sto Corp. published specifications and installation instructions in Section 4.1 of ESR-1748 and at www.stocorp.com.

All of the StoPanel[®] assemblies have been listed with a link to each assembly in accordance with section 4.1.

4.1.1 StoPanel[®] Classic ci: StoPanel[®] Classic ci system is a prefabricated application by a StoPanel Affiliate (see Section 7.3 of this report for listee details) of the StoTherm[®] ci Classic system. Sto materials, as listed in [Table 1](#), must be installed in accordance with the specifications and installation instructions in Section 4.1 of ESR-1748. StoPanel[®] Classic ci system must be fabricated in accordance with project specification and StoPanel[®] fabricator shop drawings for each project.

- [StoPanel[®] Classic ci](#)
- [Specification](#)

4.1.2 StoPanel[®] Impact ci: StoPanel[®] Impact ci system is a prefabricated application by a StoPanel Affiliate (see Section 7.3 of this report for listee details) of the StoTherm[®] Impact ci system. Sto materials, as listed in [Table 1](#), must be installed in accordance with the specifications and installation instructions in Section 4.1 of ESR-1748. StoPanel[®] Impact ci system must be fabricated in accordance with project specification and StoPanel[®] fabricator shop drawings for each project.

- [StoPanel[®] Impactci](#)
- [Specification](#)

4.1.3 StoPanel[®] XPS: StoPanel[®] XPS system is a prefabricated application by a StoPanel Affiliate (see Section 7.3 of this report for listee details) of the StoTherm[®] XPS system. Sto materials, as listed in [Table 1](#), must be installed in accordance with the specifications and installation instructions in Section 4.1 of ESR-1748. StoPanel[®] XPS system must be fabricated in accordance with project specification and StoPanel[®] fabricator shop drawings for each project.

- [StoPanel[®] XPS](#)
- [Specification](#)

4.1.4 StoPanel[®] GPS ci: StoPanel[®] GPS ci system is a prefabricated application by StoPanel[®] Affiliate (see Section 7.3 of this report for listee details) of the StoTherm[®] ci system which also incorporates the Sto Wedge drainage detail. Sto materials, as listed in Table 1, must be installed in accordance with the specifications and installation instructions in Section 4.1 of ESR-1748. StoPanel[®] GPS ci system must be fabricated in accordance with project specification and StoPanel[®] fabricator shop drawings for each project.

- [StoPanel[®] GPS ci](#)
- [Specification](#)

4.1.5 StoPanel[®] Classic NEXT ci: StoPanel[®] Classic NEXT ci system is a prefabricated application by StoPanel Affiliate (see Section 7.3 of this report for listee details) of the StoTherm[®] ci system which also incorporates the Sto Wedge drainage detail. Sto materials, as listed in [Table 1](#), must be installed in accordance with the specifications and installation instructions in Section 4.1. StoPanel[®] Classic NEXT ci system must be fabricated in accordance with project specification and StoPanel[®] fabricator shop drawings for each project.

- [StoPanel[®] Classic NEXT ci](#)
- [Specification](#)

4.1.6 StoPanel[®] MVES ci: StoPanel[®] MVES ci system is a prefabricated application by StoPanel Affiliate (see Section 7.3 of this report for listee details) of the StoTherm[®] ci system which also incorporates the Sto Wedge drainage detail. Sto materials, as listed in Table 1, must be installed in accordance with the specifications and installation instructions in Section 4.1 of ESR-1748. StoPanel[®] MVES ci system must be fabricated in accordance with project specification and StoPanel[®] fabricator shop drawings for each project.

- [StoPanel[®] MVES ci](#)
- [Specification](#)

4.1.7 StoPanel[®] Backup:

StoPanel[®] Backup is a prefabricated wall panel assembly consisting of code compliant framing and sheathing to which StoGuard[®] air barrier and water resistive barrier coating systems have been applied in the StoPanel Affiliate's prefabrication facility. StoGuard[®] air barrier and water resistive barriers must be installed using materials evaluated in ESR-1233 and installed in accordance with project specifications and the StoPanel Affiliate's shop drawings for the project.

4.2 Drainage:

StoPanel[®] ci assemblies identified in sections 4.1.1 through 4.1.7 provides drainage through the application of vertical ribbons of adhesive over the water-resistive barrier coating system identified in [Table 1](#).

Additional installation and compliance information for the StoGuard[®] air barrier and water-resistive barrier system is provided in [ESR-1233](#) and at www.stocorp.com.

4.3 Wind Design:

[Table 3](#) presents specific StoPanel[®] assemblies for which test data has been submitted. Other StoPanel[®] 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:

StoPanel[®] Classic ci, StoPanel[®] GPS ci, StoPanel[®] Impact ci, StoPanel[®] XPS, StoPanel[®] Classic NEXT ci, StoPanel[®] MVES ci, and StoPanel[®] ci with StoCast Finish assemblies comply with 2021 and 2018 IBC Section 1402.2.

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 fire-resistance-rated construction.

In addition, in Type V construction, any StoPanel[®] assemblies 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 2021 IBC Section 1705.17 and 2018 IBC Section 1705.16.

5.0 CONDITIONS OF USE

The StoPanel[®] Classic ci, StoPanel[®] GPS ci, StoPanel[®] Impact ci, StoPanel[®] XPS, StoPanel[®] Classic NEXT ci, StoPanel[®] MVES ci, and StoPanel[®] ci with StoCast Finish assemblies 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 a StoPanel[®] Affiliate (see Section 7.3 of this report for listee details) and installed in accordance with Sto instructions and this report.
- 5.4 Termination of the systems must not be less than 6 inches (152 mm) above finished grade in accordance with 2021 and 2018 IBC Section 2603.8.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with ASTM E2568, ASTM E2570 and ASTM E2273.
- 6.2 NFPA 285 and NFPA 268 test data, including engineering analysis.
- 6.3 Data in accordance with ASTM E119, including engineering analysis.
- 6.4 Data in accordance with the [ICC-ES Acceptance Criteria for EIFS Clad Drainage Wall Assemblies \(AC235\)](#), dated January 2015 (editorially revised July 2020).
- 6.5 Data in accordance with the [ICC-ES Acceptance Criteria for Foam Plastic Insulation \(AC12\)](#), dated June 2015 (editorially revised December 2020).
- 6.6 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 July 2020).

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-4500) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 In addition, each container or package of the coating or reinforcing mesh used as part of the StoPanel[®] systems components 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; and the expiration date.

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-4500).

Sto Turbostick[™] and Sto Turbostick Mini adhesive must be labeled with the Sto Corp. company name and product name designation.

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 Section 2603.2, as applicable.

StoPanel[®] Classic ci, StoPanel[®] GPS ci, StoPanel[®] Impact ci, StoPanel[®] XPS StoPanel[®] Classic NEXT ci, StoPanel[®] MVES ci, and StoPanel[®] ci with StoCast Finish assemblies prefabricated panels are produced by a StoPanel Affiliate (see Section 7.3 of this report for listee details) and shipped with a certificate of compliance that contains the project identification the panels were produced for, dates of panel fabrication and a statement that all components of the panels complies with the applicable requirements of ESR-4500.

- 7.3 The report holder's contact information is the following:

STO CORP.
3800 CAMP CREEK PARKWAY
BUILDING 1400, SUITE 120
ATLANTA, GEORGIA 30331
(404) 346-3666
www.stocorp.com
tviness@stocorp.com

- 7.4 The Additional Listees' contact information is the following:

KAPTURE PREFAB
421 WEST ALAMEDA DRIVE
TEMPE, ARIZONA 85282
CENTERLINE PREFAB, LLC
4220 ROGER B CHAFFEE
GRAND RAPIDS, MICHIGAN 49548

**JERSEY PANEL
4654 E. LANDIS AVE
VINELAND, NEW JERSEY 08361**

**FL CRANE AND SONS INC.
5707 GULF TECH DRIVE
OCEAN SPRINGS, MISSISSIPPI 39564**

**FORGE CFS COMPONENTS, LLC
4075 BLUE RIDGE INDUSTRIAL PARKWAY
NORCROSS, GEORGIA 30071**

**WAL-MARK PREFABRICATION, LLC
5241 HARTFORD ST.
TAMPA, FLORIDA 33619**

**PRECISION WALL, PREFAB
700 TROLLINGWOOD-HAWFIELDS ROAD
MEBANE, NORTH CAROLINA 27302**

**BAKER TRIANGLE PREFAB, LTD.
1301 APOLLO ROAD
RICHARDSON, TEXAS 75081**

TABLE 1—STOPANEL® COMPONENTS^{1,2}

| SYSTEM | WATER-RESISTIVE BARRIER | ASTM C578 INSULATION BOARD TYPE | ADHESIVES | BASE COATS | FINISH |
|------------------------------------|---|---------------------------------|--|--|--|
| StoPanel® Classic ci | StoGuard Gold Coat Sto AirSeal StoPanel AWRB StoGuard® VaporSeal (see ESR-1233) | Type I ^{8,9} | Sto BTS Plus Sto BTS Silo Sto BTS Xtra Sto TurboStick StoTurboStick Mini | Sto BTS Plus Sto BTS Silo Sto BTS Xtra Sto RFP Sto Armat Classic Plus | Stolit Stolit HDP Stolit Milano ³ Stolit X ³ |
| StoPanel® GPS ci | StoGuard Gold Coat Sto AirSeal StoPanel AWRB StoGuard® VaporSeal (see ESR-1233) | Type I ^{8,9} | Sto BTS Plus Sto BTS Silo Sto BTS Xtra Sto TurboStick StoTurboStick Mini | Sto BTS Plus Sto BTS Silo Sto BTS Xtra Sto RFP Sto Armat Classic Plus | Stolit Stolit HDP Stolit Milano ³ Stolit X ³ |
| StoPanel® Classic NEXT ci | StoGuard Gold Coat Sto AirSeal StoPanel AWRB StoGuard® VaporSeal (see ESR-1233) | Type I ^{8,9} | Sto BTS Plus Sto BTS Silo Sto BTS Xtra Sto TurboStick StoTurboStick Mini | Sto BTS Plus Sto BTS Silo Sto BTS Xtra Sto RFP Sto Armat Classic Plus | Stolit Stolit HDP Stolit Milano ³ Stolit X ³ |
| StoPanel® Impact ci | StoGuard Gold Coat Sto AirSeal StoPanel AWRB StoGuard® VaporSeal (see ESR-1233) | Type I ^{8,9} | Sto BTS Plus Sto BTS Silo Sto BTS Xtra Sto TurboStick StoTurboStick Mini | Sto BTS Plus Sto BTS Silo Sto BTS Xtra Sto RFP Sto Armat Classic Plus | StoSilco Lit |
| StoPanel® XPS | StoGuard Gold Coat Sto AirSeal StoPanel AWRB StoGuard® VaporSeal (see ESR-1233) | Type X | Sto TurboStick StoTurboStick Mini | Sto BTS Plus Sto BTS Xtra Sto Primer/Adhesive Sto Primer/Adhesive-B Sto Armat Classic Plus | Stolit Stolit HDP Stolit Lotusan Stolit Milano Stolit X |
| StoPanel® Backup | StoGuard Gold Coat Sto AirSeal StoPanel AWRB StoGuard® VaporSeal-R ¹⁰ StoGuard® VaporSeal (see ESR-1233) | N/A | N/A | N/A | N/A |
| StoPanel® ci MVES | StoGuard Gold Coat Sto AirSeal StoPanel AWRB StoGuard® VaporSeal (see ESR-1233) | Type I ^{8,9} | Sto TurboStick StoTurboStick Mini | Sto Primer/Adhesive ⁹ | ASTM C1088 Thin Brick ⁵ or ASTM C1670 (AC51) Compliant Manufactured Stone ⁶ adhered with StoColl Adhesive Mortar |
| StoPanel® ci with StoCast Finishes | StoGuard Gold Coat Sto AirSeal StoPanel AWRB StoGuard® VaporSeal (see ESR-1233) | Type I ^{8,9} | Sto BTS Plus Sto BTS Silo Sto BTS Xtra Sto TurboStick StoTurboStick Mini | Sto BTS Plus Sto Armat Classic Plus | StoCast Finish ⁷ |

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.

³Sto BTS Silo basecoat is not recognized for use with Stolit Milano and Stolit X finish.

⁴Mesh Reinforcement for base coat is Sto Mesh 6-oz. Corrosion resistant self-drilling screws with 1-1/4 inch (32mm) diameter galvanized steel washer installed through the reinforced base coat (with washer seated on base coat) into framing members at 36 inches (914mm) on center vertically and 16 inches (406mm) horizontally. Screw threads must engage steel studs and be of sufficient length to penetrate minimum three full threads beyond the stud thickness.

⁵Thin brick grouted with ANSI 118.7 compliant grout.

⁶Manufactured stone must be recognized in a current ICC-ES evaluation report demonstrating compliance with ICC-ES Acceptance Criteria for Precast Stone Veneer (AC51).

⁷StoCast Finish installed with StoCast Wood Adhesive (each plank is 6 inches wide by 6 feet long). StoCast Brick is installed with Sto Bonding and Pointing Mortar.

⁸Reference Section 3.2 (d) of this report for alternate insulation board.

⁹Type 1 insulation board includes materials referenced in Sections 3.2(c) and 3.2(d) of this report.

¹⁰StoGuard® VaporSeal® R membrane may be used in all types of construction, except that under the under the IBC for Types I, II, III, or IV construction, use is limited to exterior walls of buildings having a maximum height of 40 feet (12.2 m) above grade plane, in accordance with 2021 and 2018 IBC Section 1402.5, unless the exterior wall assemblies are installed as described in Section 4.7 of this report. For exterior walls of buildings of Types I, II, III, or IV construction that are greater than 40 feet (12.2 m) above grade plane, StoGuard® VaporSeal® R membrane may be used, in accordance with 2021 and 2018 IBC Section 1402.5.

TABLE 2—REINFORCING MESH PRODUCTS

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

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

TABLE 3—WIND LOAD DESIGN^{1,4}

| FRAMING MEMBERS ² | | | | SHEATHING | | | WIND LOAD CAPACITY, psf (Pa) | | SYSTEM |
|--------------------------------|---------------------|-----------|--------------------------|------------|------------------|--|------------------------------|------|---|
| Wood, min. size (inches) | Metal | | Maximum Spacing (inches) | Type | Thickness (inch) | Maximum Fastener Spacing ³ , (inches) | Neg. | Pos. | |
| | Min. Depth (inches) | Min. Gage | | | | | | | |
| -- | 3½ | 18 | 16 | Gypsum | ½ | 8 | 20 | 35 | StoPanel® (See Table 1) |
| -- | 3½ | 18 | 16 | Gypsum | 5/8 | 8 | 38 | 60 | StoPanel® (See Table 1) |
| -- | 6 | 18 | 16 | Gypsum | 5/8 | 6 | 40 | 50 | StoPanel® (See Table 1) |
| -- | 6 | 18 | 16 | Gypsum | 5/8 | 6 | 63 | 58 | StoPanel® (See Table 1) |
| -- | 6 | 18 | 16 | Gypsum | 5/8 | 6 | 63 | 58 | StoPanel® ci with XPS Insulation |
| -- | 3½ | 18 | 16 | Gypsum | 5/8 | 8 | 56 | 73 | StoPanel® MVES ci with Thin Brick |
| -- | 3½ | 18 | 16 | Gypsum | 5/8 | 8 | 36 | 53 | StoPanel® MVES ci with Manufactured Stone |
| 2x4 Nominal | -- | -- | 16 | Wood-Based | 3/8 | 8 | 20 | 36 | StoPanel® ci with StoCast Finish |
| Concrete or masonry substrates | | | | | | | 54 | 54 | StoPanel® ci with StoCast Finish |

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

¹Applicable to all StoTherm® materials listed in [Tables 1](#) and [2](#).

²Deflection limitation 1/240, designed in accordance with applicable code.

³Fasteners must be No. 6, flathead, corrosion-resistant screws [minimum 0.292-inch (7.4 mm) head diameter].

⁴Other StoPanel® assemblies may be considered for approval by local officials, based on testing and/or calculations provided by a qualified design professional.

TABLE 4—ASSEMBLIES FOR USE IN TYPES I THROUGH IV CONSTRUCTION

| FRAMING MEMBERS ^{5,8} | | | INTERIOR SHEATHING ^{1,7} (TYPE X GYPSUM) | | EXTERIOR SHEATHING (TYPE X GYPSUM) | | MAX. INSULATION BOARD THICKNESS, (inches) | SYSTEM ⁹ |
|--------------------------------|--------------|-----------------------------|--|--|---------------------------------------|---|---|---|
| Metal | | Max. Spacing (inches) | Min. Thickness (inch) | Max. Fastener Spacing (inches) | Min. Thickness (inch) | Max. Fastener Spacing (inches) | | |
| Min. Depth (inches) | Min. Gage | | | | | | | |
| 3 1/2 | 18 | 16 | 1/2 | 8 at perimeter 12 in field ² | 1/2 | 6 at perimeter 8 in field ³ | 12 | StoPanel® (See Table 1) |
| 3 1/2 | 18 | 16 ⁶ | 1/2 | 6 ⁴ | 5/8 | 6 at perimeter 8 in field ³ | 12 | StoPanel® (See Table 1) |
| 6 | 20 | 16 | 5/8 | 8 ⁴ | 5/8 | 8 ⁴ | 12 | StoPanel™ (See Table 1) |
| 3 1/2 | 18 | 16 ⁶ | 5/8 | 8 at perimeter 12 in field | 5/8 | 8 at perimeter 12 in field | 9 | StoPanel® with TurboStick, Sto TurboStick Mini adhesive and Type I EPS (See Table 1) |
| 3 1/2 | 18 | 16 ⁶ | 5/8 | 8 at perimeter 12 in field | 5/8 | 8 at perimeter 12 in field | 6 | StoPanel® XPS with Sto BTS Xtra base coat and Stolit finish StoPanel® (See Table 1) |
| 3 5/8 | 18 | 16 | 5/8 | 8 at perimeter 12 in field | 5/8 | 8 at perimeter 12 in field | 4 | StoPanel® MVES ci |
| 3 5/8 | 18 | 16 | 5/8 | 8 at perimeter 12 in field | 5/8 | 8 at perimeter 12 in field | 6 | StoPanel® ci with StoCast Finish – with Sto TurboStick, Sto TurboStick Mini adhesive and Sto BTS Plus base coat. |

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 No. 6 drywall screws having sufficient length to penetrate framing a minimum of 3/8 inch (9.5 mm).

⁴Fasteners are No. 6 by 1 1/4-inch-long (31.7 mm), bugle head drywall screws.

⁵Stud cavities at floor levels are blocked with Owens Corning Thermafiber insulation, 4 lb/ft³ (64 kg/m³) density, 4 inches (102 mm) thick and 2 feet (610 mm) wide.

⁶Stud cavities must be filled with R-11 fiberglass insulation.

⁷All joints must be taped and treated with joint compound. Intermediate fastener heads are treated with joint compound in accordance with ASTM C840 or GA216.

⁸Openings must be framed with minimum 0.0428-inch-thick steel framing.

⁹Applicable to StoPanel® systems listed in [Tables 1](#) and [4](#), except for StoPanel® systems using Stolit Milano and Stolit X finish, unless noted otherwise.

TABLE 5—FIRE-RESISTANCE-RATED ASSEMBLIES^{1,2}

| FIRE-RESISTANCE RATING (hrs) | FRAMING MEMBERS | | | INTERIOR SHEATHING | | | EXTERIOR SHEATHING | | | MAXIMUM EPS/GPS INSULATION BOARD THICKNESS (inches) |
|-------------------------------|-------------------------------|-----------|-----------------------|--|-----------------------|--|-----------------------------|-----------------------|--|---|
| | Min. Depth (inches) | Min. Gage | Max. Spacing (inches) | Type | Min. Thickness (inch) | Max. Fastener Spacing (inches) | Type | Min. Thickness (inch) | Max. Fastener Spacing ⁵ (inches) | |
| StoPanel [®] | | | | | | | | | | |
| 1 | 3½ | 18 | 16 | Type X gypsum ⁵ | 5/8 | 8 o.c. on perimeter 12 o.c. in field ³ | Type X gypsum | 5/8 | 6 at perimeter 8 in field ⁴ | 6 |
| 2 | 3½ | 18 | 16 | Two layers of Type X gypsum ⁵ | 5/8 | Base layer at 24 o.c. Face layer at 8 o.c. ⁶ | Two layers of Type X gypsum | 5/8 | Base layer at 24 o.c. Face layer at 8 o.c. ⁶ | 6 |
| StoPanel [®] MVES ci | | | | | | | | | | |
| 1-(LB or NLB) ⁷ | 6 | 16 | 16 | Type X gypsum ⁵ | 5/8 | 8 o.c. on perimeter 12 o.c. in field ³ | Type X gypsum | 5/8 | 8 o.c. on perimeter 12 o.c. in field ⁴ | 4 |
| 1 | 3 ⁵ / ₈ | 18 | 16 | Type X gypsum ⁵ | 5/8 | 8 o.c. on perimeter 12 o.c. in field ³ | Type X gypsum | 5/8 | 8 o.c. on perimeter 12 o.c. in field ⁴ | 4 |

For SI: 1 inch = 25.4 mm.

¹Applicable to all StoPanel[®] materials listed in [Table 1](#), except to StoPanel[®] systems which use the Stolit Milano, Stolit X and Sto TurboStick[™], or Sto TurboStick Mini adhesive, or systems that use Sto Armat Classic Plus Base Coat.

²All board joints must be blocked.

³Fasteners are minimum No. 6, 1¼-inch-long (32 mm), self-tapping, corrosion-resistant bugle head screws.

⁴Fasteners are No. 6 drywall screws having sufficient length to penetrate framing a minimum of 3/8 inch (9.5 mm).

⁵Interior 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.

⁶Fasteners for the base layer of gypsum board are No. 6, 1¼-inch-long, self-tapping, corrosion-resistant bugle-head screws. Fasteners for the face layer are 1⁷/₈-inch-long, self-tapping, corrosion-resistant bugle-head screws.

⁷LB = Load Bearing; NLB = Non-Load Bearing.

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:

STO CORP.

EVALUATION SUBJECT:

STOPANEL® CLASSIC ci, STOPANEL® GPS ci, STOPANEL® IMPACT ci, STOPANEL® XPS, STOPANEL® CLASSIC NEXT ci, STOPANEL® BACKUP, STOPANEL® MVES ci, AND STOPANEL® ci WITH STOCAST FINISH

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that StoPanel® Classic ci, StoPanel® GPS ci, StoPanel® Impact ci, StoPanel® XPS, StoPanel® Classic NEXT ci, StoPanel® Backup, StoPanel® MVES ci, and StoPanel® ci with StoCast Finish systems, described in ICC-ES evaluation report [ESR-4500](#), have also been evaluated for compliance with the codes noted below as adopted by Los Angeles Department of Building and Safety (LADBS).

Applicable code edition:

2023 City of Los Angeles Building Code (LABC)

2.0 CONCLUSIONS

The StoPanel® Classic ci, StoPanel® GPS ci, StoPanel® Impact ci, StoPanel® XPS, StoPanel® Classic NEXT ci, StoPanel® Backup, StoPanel® MVES ci, and StoPanel® ci with StoCast Finish systems, described in Sections 2.0 through 7.0 of the evaluation report [ESR-4500](#), comply with LABC Chapters 7, 14 and 26, subject to the conditions of use described in this report.

3.0 CONDITIONS OF USE

The StoPanel® Classic ci, StoPanel® GPS ci, StoPanel® Impact ci, StoPanel® XPS, StoPanel® Classic NEXT ci, StoPanel® Backup, StoPanel® MVES ci, and StoPanel® ci with StoCast Finish systems described in this evaluation report must comply with all the following conditions:

- All applicable sections in the evaluation report [ESR-4500](#).
- The design, installation, conditions of use and labeling of the StoPanel® Classic ci, StoPanel® GPS ci, StoPanel® Impact ci, StoPanel® XPS, StoPanel® Classic NEXT ci, StoPanel® Backup, StoPanel® MVES ci, and StoPanel® ci with StoCast Finish systems are in accordance with the 2021 *International Building Code*®, as applicable, noted in the evaluation report [ESR-4500](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.

This supplement expires concurrently with the evaluation report, reissued December 2023 and revised April 2024.

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:**

STO CORP.

EVALUATION SUBJECT:**STOPANEL® CLASSIC ci, STOPANEL® GPS ci, STOPANEL® IMPACT ci, STOPANEL® XPS, STOPANEL® CLASSIC NEXT ci, STOPANEL® BACKUP, STOPANEL® MVES ci, AND STOPANEL® ci WITH STOCAST FINISH****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that StoPanel® Classic ci, StoPanel® GPS ci, StoPanel® Impact ci, StoPanel® XPS, StoPanel® Classic NEXT ci, StoPanel® Backup, StoPanel® MVES ci, and StoPanel® ci with StoCast Finish systems, described in ICC-ES evaluation report ESR-4500, has also been evaluated for compliance with the code noted below.

Applicable code edition:

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.

2.0 CONCLUSIONS**2.1 CBC:**

The StoPanel® Classic ci, StoPanel® GPS ci, StoPanel® Impact ci, StoPanel® XPS, StoPanel® Classic NEXT ci, StoPanel® Backup, StoPanel® MVES ci, and StoPanel® ci with StoCast Finish systems, described in Sections 2.0 through 7.0 of the evaluation report ESR-4500, comply with CBC Chapters 7, 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 7, 14, 16, 17 and 26, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

This supplement expires concurrently with the evaluation report, reissued December 2023 and revised April 2024.

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:**

STO CORP.

EVALUATION SUBJECT:**STOPANEL® CLASSIC ci, STOPANEL® GPS ci, STOPANEL® IMPACT ci, STOPANEL® XPS, STOPANEL® CLASSIC NEXT ci, STOPANEL® BACKUP, STOPANEL® MVES ci, AND STOPANEL® ci WITH STOCASST FINISH****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that StoPanel® Classic ci, StoPanel® GPS ci, StoPanel® Impact ci, StoPanel® XPS, StoPanel® Classic NEXT ci, StoPanel® Backup, StoPanel® MVES ci, and StoPanel® ci with StoCast Finish systems, described in ICC-ES evaluation report ESR-4500, have also been evaluated for compliance with the code noted below.

Applicable code edition:

2023 Florida Building Code—Building

2.0 CONCLUSIONS

The StoPanel® Classic ci, StoPanel® GPS ci, StoPanel® Impact ci, StoPanel® XPS, StoPanel® Classic NEXT ci and StoPanel® Backup, StoPanel® MVES ci, and StoPanel® ci with StoCast Finish systems, described in Sections 2.0 through 7.0 of the evaluation report ESR-4500, comply with the *Florida Building Code—Building*. The design requirements must be determined in accordance with the *Florida Building Code—Building*. The installation requirements noted in ICC-ES evaluation report ESR-4500 for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code—Building*, with the following condition:

- Installation must meet the requirements of Sections 1403.8 and 2603.8 of the *Florida Building Code—Building*, as applicable.

Use of the StoPanel® Classic ci, StoPanel® GPS ci, StoPanel® Impact ci, StoPanel® XPS, StoPanel® Classic NEXT ci, StoPanel® Backup, StoPanel® MVES ci, and StoPanel® ci with StoCast Finish systems for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* 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 December 2023 and revised April 2024.