Code Compliance Research Report
CCRR-0600

Issue Date: 04-14-2025
Renewal Date: 04-30-2026

DIVISION: 07 00 00–THERMAL AND MOISTURE PROTECTION
Section: 07 45 00 – Fiber-reinforced Cementitious Panels

REPORT HOLDER:
Sto Corp.
3800 Camp Creek Parkway
Bldg. 1400, Suite 120
Atlanta, GA 30331
www.stocorp.com

REPORT SUBJECT:
StoVentec® Fiber Cement Panels

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2024 and 2021 *International Building Code®* (IBC)
- 2024 and 2021 *International Residential Code®* (IRC)
- 2023 *Florida Building Code* (including High-Velocity Hurricane Zones (see Section 9)
- 2022 *California Building Code* (see Section 9)
- 2023 *City of Los Angeles Building Code* (See Section 9)

NOTE: This report references the most recent Code editions cited. Section numbers in earlier editions may differ.

1.2 StoVentec® Fiber Cement Panels have been evaluated for the following properties (see Table 1):

- Physical properties
- Wind resistance
- Surface burning characteristics
- Noncombustible materials
- Weather protection

1.3 StoVentec® Fiber Cement Panels have been evaluated for the following uses (see Table 1):

- Use as an exterior wall covering in accordance with IBC Section 1404.17 and IRC Section R703.10
- Use on exterior walls in Types I, II, III and IV construction
- Use on exterior walls permitted to be of Type V construction

2.0 STATEMENT OF COMPLIANCE

StoVentec® Fiber Cement Panels comply with the Codes listed in Section 1.1, for the properties stated in Section 1.2 and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.

2.1 2024 IBC and IRC Evaluation Reports: The Intertek CCRR is an *Evaluation Report* for approval of an alternate material, design, or method of construction in accordance with Section 104.2.3.6.1 of the 2024 IBC and Section R104.2.2.6.1 of the 2024 IRC.

3.0 DESCRIPTION

3.1 StoVentec® Fiber Cement Panels: The fiber cement panels are supplied in 8mm and 10mm thicknesses and 4 ft by 8 ft and 4 ft by 10 ft dimensions.

3.2 StoVentec® Fiber Cement System – Exposed Fastener System: The exposed fastener method consists of StoVentec® fiber cement panels attached to the structural wall with T-rails, Angle Rails and StoVentro Brackets.

3.2.1 StoVentro Brackets: StoVentro Brackets are used to connect T-rails and Angle Rails to the structural wall framing in the exposed fastener system. The brackets are supplied by Sto Corp. and must be min. 2mm galvanized steel, designation S550GD+ZM, or min. 2mm stainless steel conforming to S460, or min. 4mm aluminum conforming to 6005A-T5 alloy. The brackets are supplied in sizes from 40mm to 360mm, in 20mm increments. See Figure 1.

3.2.2 T-rails and Angle Rails: T-rails and Angle Rails are used to connect the StoVentec Fiber Cement Panels to the StoVentro Brackets in the exposed fastener system. The extruded components are supplied by Sto Corp. and must be aluminum conforming to 6005A-T5 alloy. See Figure 1.

3.3 StoVentec Fiber Cement System – Hidden Fasteners: The hidden fastener system consists of StoVentec fiber cement panels, Agraffe Rails, and Carrier Profile Hangers.

3.3.1 Agraffe Rails: The Agraffe rails are used to connect the Carrier Profile Hangers to the structural wall framing in the hidden fastener system. The rails are supplied by Sto Corp. and must be aluminum conforming to 6005A-T5 alloy. See Figure 1.

3.3.2 Carrier Profile Hangers: The hangers are used to connect the panels to the Agraffe rails in the hidden fastener system. The hangers are supplied by Sto Corp. and must be aluminum conforming to 6005A-T5 alloy. See Figure 1.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Physical Properties: The panel products comply with ASTM C1186, Type A, Grade IV, in accordance with IBC Section 1403.9 and IRC Section R703.10.

4.2 Wind Resistance: The allowable wind pressure for various assemblies is described in Table 2.

4.3 Surface Burning Characteristics: The panels have a flame spread index of 0 and a smoke-developed index of 0, when tested in accordance with ASTM E84.

4.4 Noncombustibility: The panels are noncombustible materials complying with IBC Section 703.3, as determined be testing in accordance with ASTM E136.

4.5 Fire-resistance-rated Construction: Installation of the system over existing loadbearing or non-loadbearing wall assemblies will maintain the fire resistance rating of the wall assembly.

5.0 INSTALLATION

5.1 General: The StoVentec® Fiber Cement Panel system must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

The panels must be installed over a water-resistive barrier complying with IBC Sections 1402.5 and 1403.2, or IRC Section R703.1 and R703.2. Attachment of the panels must be as described in Table 2. Vertical and horizontal joints in the panels shall occur over framing members and shall be protected with caulking, battens or flashing.

5.2 StoVentec® Fiber Cement System – Exposed Fastener System:

Structural framing must be minimum No. 18 gage steel, must be spaced a maximum of 16 in. oc, and must be designed for applicable loads.

StoVentro Brackets are attached through the exterior sheathing to the steel framing in the structural wall. The brackets are placed 6 in. from the ends of the structural framing and 36 in. oc thereafter. The fastenings must be designed such that the minimum total fastener withdrawal capacity for each bracket is 310 lb. The fasteners must be minimum #14 x 2-in. SDS screws and a minimum of two screws must be used per bracket.

T-rail and Angle Rails are attached to the brackets with two SDA5 #12 x 7/8-in. self-drilling screws per bracket. T-rails are used at panel joints, Angle Rails are used for intermediate framing. The rails will be spaced at 16 in. oc.

The StoVentec panels are attached to the rails with either EJOT JT4-LT-3-5.5x25 self-drilling screws with 11mm diameter centering sleeves, or with SFS SSO-D15 rivets with 10mm diameter fixed point sleeves. The panels must be predrilled for the 11mm or 10mm sleeves, as applicable. Spacing of the panel fasteners is as described in Table 2. Fasteners on the perimeter must be 1-1/4-in. from vertical edges and 3-in. from horizontal edges.

5.3 StoVentec Fiber Cement System – Hidden Fasteners: Structural framing must be minimum No. 18 gage steel, must be spaced a maximum of 16 in. oc, and must be designed for applicable loads. StoVentro Brackets are attached through the exterior sheathing to the steel framing in the structural wall. The brackets are placed 6 in. from the ends of the structural framing and 36 in. oc thereafter. The brackets are attached to the framing with two #14 x 2-in. SDS screws per bracket.

T-rail and Angle Rails are attached to the brackets with two SDA5 #12 x 7/8-in. self-drilling screws per bracket. T-rails are used at panel joints, Angle Rails are used for intermediate framing. The rails must be spaced at 16 in. oc.

Agraffe Rails are attached to the Rails at 22-1/2-in vertically with one SDA5 #12 x 7/8-in self-drilling screw per connection.

Carrier Profile Hangers are 4-inch long extrusions that nest into the Agraffe Rails. The Carrier Profile Hangers are attached to the back side of the panels with two TUF-S threaded rivets per profile. The Carrier Profiles are placed 3 in. from all panel edges and spaced at 22-1/2-in vertically and 16-in. horizontally (20 Carrier Profile Hangers per 4 x 8 panel).

6.0 CONDITIONS OF USE

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

6.2 The StoVentec® Fiber Cement Panels are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests in accordance with ASTM C1186, ASTM E330, TAS 202, TAS 203, ASTM D1037, ASTM E136, ASTM E2652.

7.2 Intertek Listing Report "StoVentec® Fiber Cement Panels", on the Intertek Directory of Building Products.

8.0 IDENTIFICATION

The StoVentec® Fiber Cement Panels are identified with the manufacturer's name (Sto Corp.), the product name (StoVentec Fiber Cement), the Intertek Mark as shown below, the Intertek Control Number and the Code Compliance Research Report number (CCRR-0600).

9.0 OTHER CODES

9.1 FLORIDA BUILDING CODE

The StoVentec® Fiber Cement Panels, described in Sections 2.0 through 7.0 of this Research Report, comply with the *Florida Building Code – Building* and *Florida Building Code – Residential*, including High Velocity Hurricane Zones, for the editions indicated in Section 1.1 of this report, subject to the following conditions:

- When used in the HVHZ, the system shall be installed over minimum 19/32-in. C-D, Exposure 1 plywood supported by 2x wood studs or 2 x 6 No. 18 gage metal studs.
- The allowable design pressure is 105 psf, positive and negative.

Intertek is an approved evaluation entity and quality assurance entity pursuant to Florida Statute 553.842 – *Product Evaluation and Approval*.

9.2 CALIFORNIA BUILDING CODE

The StoVentec Fiber Cement Panels, described in Sections 2.0 through 7.0 of this Research Report, comply with the *California Building Code*, and *California Residential Code*, for the editions indicated in Section 1.1 of this report.

The panels comply with the Wildland-Urban Interface (WUI) provisions of CBC Chapter 7A and CRC Section R337 as noncombustible materials, in accordance with CBC Chapter 707A.3 and CRC Section R337.7.3.

9.3 CITY OF LOS ANGELES BUILDING CODE

The StoVentec Fiber Cement Panels, described in Sections 2.0 through 7.0 of this Research Report, comply with the *City of Los Angeles Building Code* and *City of Los Angeles Residential Code*, for the editions indicated in Section 1.1 of this report.

The panels comply with the Wildland-Urban Interface (WUI) provisions of CBC Chapter 7A and CRC Section R337 as noncombustible materials, in accordance with CBC Chapter 707A.3 and CRC Section R337.4.4.

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the https://bpdirectory.intertek.com is recommended to ascertain the current version and status of this report.

TABLE 1 - PROPERTIES EVALUATED

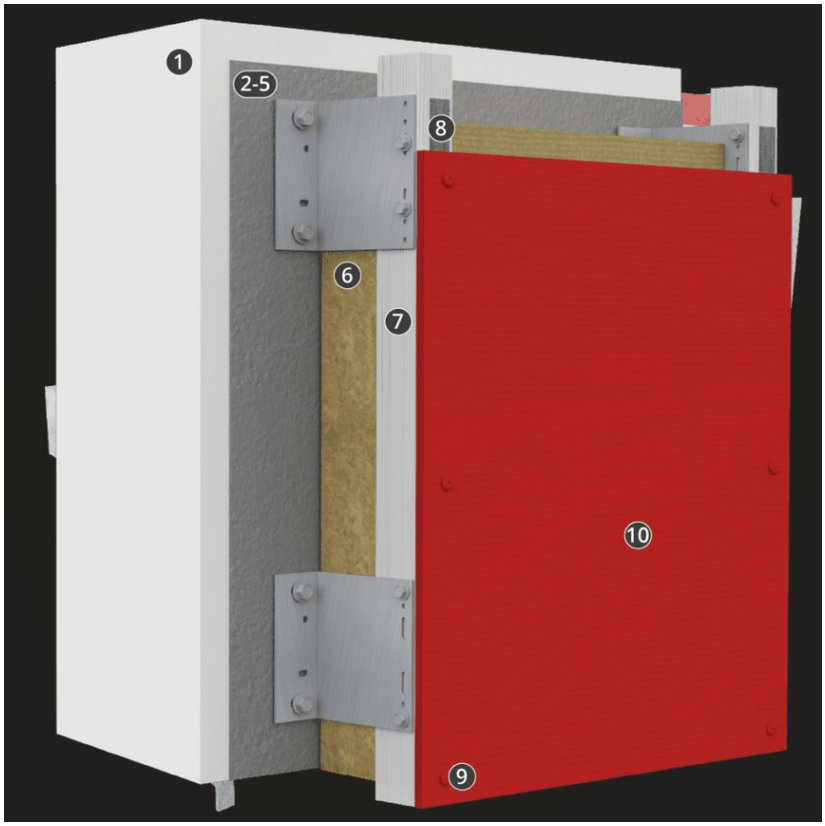
Standard / Requirement	2024 IBC	2024 IRC	2023 FBC – Building w/ HVHZ	2023 FBC – Residential w/ HVHZ	2022 CBC / 2023 LABC	2022 CRC / 2022 LARC
ASTM C1186 ISO 8336	1403.9 1404.17	R703.10.1	1404.10 1405.16	R703.10	1403.10 1404.16	R703.10
Wind loads	1402.3 1404.17	R703.1.2	1403.3 1405.16	R703.1.2	1404.16	R703.1.2
Noncombustible materials	703.3	NA	703.5	NA	703.3	NA
Weather protection	1402.2	R703.1	1403.2	R703.1	1402.2	R703.1
HVHZ	NA	NA	1626	R4401	NA	NA
Wildland-Urban Interface Areas	NA	NA	NA	NA	707A.3	R337.7 / R337.4.4

[1]Section numbers pertain to the most recent edition cited in Section 1.1 of this Report

TABLE 2 – ALLOWABLE TRANSVERSE WIND LOADS

Attachment system	Framing Spacing (in.)	Minimum Panel Thickness (mm)	Spacing of Panel Fasteners (in.)	No. of fasteners per 4 x 8 panel		Allowable Design Pressure (psf)
				Panels horizontal	Panels vertical	
Exposed Fasteners	16	8	10-1/2 vertically	35	40	-95
		8	14 vertically	28	--	-85
		8	21 vertically	21	21	-66
Hidden Fasteners	16	10	22-1/2 vertically 16 horizontally	20	20	-44

Figure 1 – System Components:

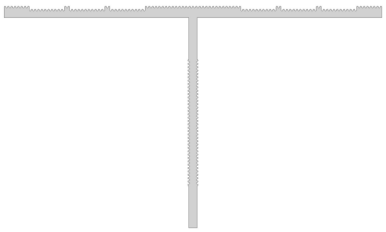


Typical Wall Construction:

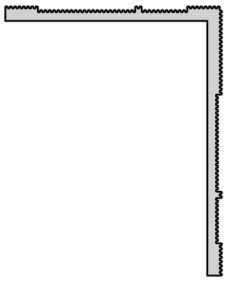
1. Structural wall assembly
2. Air and water-resistive barrier
3. StoGuard detail component – joints corners, flashing and rough opening protection, penetrations
4. StoGuard detail component – static joints and seams
5. StoGuard detail component – dynamic joints
6. Exterior insulation- mineral wool compliant with ASTM C612 and E136
7. Sub-construction: StoVentro
8. EPDM foam tape: 3mm (1/8”) thick
9. StoVentec Fiber Cement Rivet or Screw
10. StoVentec Fiber Cement Panel

Figure 1 – System Components: (Continued)

T-Rail Profile:



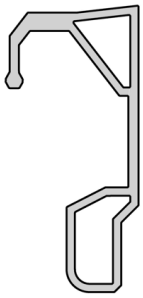
L-Rail Profile



StoVentro Bracket (GP L300):

StoVentro Bracket (FP L300):

Carrier Profile:



Agraffe Rail:

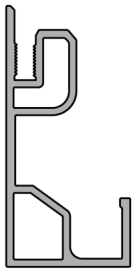


Figure 1 – System Components: (Continued)

1/4-14 SD2 Bi-Met 300 Screw:

EJOT JT4-LT-3-5.5x25 KD16:

SFS SSO-D15 Rivet:

SFS SDA5-H13/5.5 Screw:

SFS SDA5 Full 316 SS Self-driller Screw:

SFS TUF-S Hidden Fastener: