

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 42 43—Composite Wall Panels

REPORT HOLDER:

FIBERESIN INDUSTRIES INC.

EVALUATION SUBJECT:

STONEWOOD EXTERIOR ARCHITECTURAL PANELS

1.0 EVALUATION SCOPE

Compliance with the following codes:

2018, 2015 and 2012 *International Building Code*® (IBC)

For evaluation for compliance with codes adopted by the Los Angeles Department of Building and Safety (LADBS), see [ESR-4154 LABC Supplement](#).

Properties evaluated:

- Weather resistance
- Wind load resistance
- Interior finish
- Exterior walls of Types I, II, III or IV construction

2.0 USES

The Stonewood Exterior Architectural Panel system is used as a nonload-bearing exterior wall covering in accordance with Chapter 14 of the IBC. The system may also be used for interior applications as part of a Class A interior wall finish. The Stonewood Exterior Architectural Panel system may be installed on buildings of all construction types under the IBC. Use on exterior walls of buildings of Type I, II, III or IV construction must be in accordance with Section 4.5 of this report.

3.0 DESCRIPTION

3.1 General:

The Stonewood Exterior Architectural Panel system is an open-jointed wall covering system that allows air to circulate between the panels and the exterior face of the installed water-resistive barrier. The panels are mounted on a substructure of 1-inch (25.4 mm) extruded aluminum channels supplied by others.

3.1.1 Panels: The Stonewood Exterior Architectural wall panels are decorative high-pressure laminates (HPLs) consisting of a core material of kraft paper and phenolic

resin, and an exterior face consisting of melamine resin impregnated with a decorative pattern. The wall panels are nominally ³/₈-inch (10 mm) thick and are available in a sheet size of 4-feet-by-8-feet (1219 mm by 2438 mm) and a variety of colors. The panels weigh a nominal 2.6 psf (12.7 kg/m²).

The wall panels meet the requirements of IBC Section 803.1.1 as a Class A interior finish when tested in accordance with ASTM E84.

3.1.2 Substructure System: The substructure is a system of vertical extruded aluminum channels (hat channels, J-channels, Z-channels and C-channels) with a nominal 1-inch (25.4 mm) depth which are fastened to the existing building to provide support for the panels. The panels are connected to the substructure with exposed fasteners No. 12-by-1³/₁₆-inch (30.2 mm) long stainless-steel self-drilling dome head screws. See Figure 1.

4.0 INSTALLATION

4.1 General:

The Stonewood Exterior Architectural Panel system must be installed in accordance with the report holder's published installation instructions, the project specific structural calculations and details, and this report. A copy of the installation instructions must be available on the jobsite during construction.

4.2 Design:

The allowable wind loads for the Stonewood Exterior Architectural Panel system, given in Table 1, and the wind-load capacity of the underlying wall and substrate must equal or exceed the design uniform transverse wind loads determined in accordance with Chapter 16 of the IBC. The substructure system connections used to connect the Stonewood exterior Architectural Panels to the underlying wall or substrate must be designed by a registered design professional and the details must be submitted to the code official for approval. The allowable loads must be reduced to the capacity of the attachment system connections if these are less than the values in Table 1.

4.3 Installation:

4.3.1 General: The Stonewood Exterior Architectural Panel system must be installed over wall assemblies complying with 2018 IBC Section 1402.3 [2015 and 2012 IBC Section 1403.3], capable of supporting the imposed loads, including, but not limited to, transverse wind loads. The substructure components must be securely fastened to

the supporting wall with corrosion-resistant fasteners that are compatible with the substructure materials and wall assembly substrate.

Exterior wall assemblies on which the system is to be installed must include flashing, a water-resistive barrier, a means of draining water, and protection against condensation in accordance with 2018 IBC Section 1402.2 [2015 and 2012 IBC Section 1403.2]. When use is on Type I, II, III and IV construction, the exterior wall must be covered with a water-resistive barrier as described in Section 4.5 of this report. The water-resistive barrier must be installed in accordance with the manufacturer's installation instructions.

4.3.2 Substructure System Installation (Exposed Fastening System): Connection of the substructure components (Hat-channels, Z-channels, J-channels and C-channels) to the supporting wall assembly must be designed in accordance with Section 4.2 and this section. The components must be installed vertically at a spacing not to exceed 24 inches (610 mm) on center, and fastened at a maximum of 24 inches (610 mm) on center along the vertical length, to the underlying substrate of the building to withstand the wind load noted in Table 1. Fasteners must be compatible with the aluminum substructure extrusions and the wall substrate.

4.3.3 Panel Fastening (exposed fastening system): The panels must be connected to the substructure using No. 12-by-1³/₁₆-inch (30.2 mm) long stainless steel self-drilling dome head screws at a maximum of 24 inches (610 mm) on center. A minimum distance of ³/₈-inch (9.5 mm) must be maintained between each panel on all sides. Each panel, at the panel attachment points, must be predrilled and a minimum fastener edge distance of 1 inch (25.4 mm) and a maximum fastener edge distance of 2 inches (50.8 mm) must be maintained. The middle fastener of each panel is a fixing fastener to hold the panel in place. The remaining fasteners in the panel must be fastened through floating holes in the panel that are ¹/₈-inch (3 mm) larger than the screw diameter, to allow for panel thermal expansion. See Figures 3 through 4 for details.

4.4 Interior Applications:

When installed on the interior of buildings, the Stonewood Exterior Architectural Panels are installed in accordance with Sections 4.2 and 4.3.

4.5 Exterior Walls of Types I, II, III or IV Construction (Exposed Fastening System):

When installed as described in this section (Section 4.5), the Stonewood Exterior Architectural Panel exposed fastening system may be used on the exterior face of exterior walls of buildings required to be of Type I, II, III or IV construction.

The supporting wall assembly must consist of minimum No. 20 gage, 3⁵/₈-inch (92 mm), galvanized steel studs spaced at a maximum of 24 inches (610 mm) on center fastened to 20 gage, 3⁵/₈-inch (92 mm), galvanized steel tracks with No. 6 by ¹/₂-inch-long (12.7 mm) self-drilling, pan head fasteners per stud flange. At each floor line, the stud cavities must be fire-stopped according to the code. The stud cavities must be filled Johns Manville MinWool® Safing with a nominal density of 4.0 lbs/ft³ (64.1 kg/m³). The studs must be covered on the interior side with ⁵/₈-inch-thick (15.9 mm) Type X gypsum wallboard complying with ASTM C1396, and on the exterior side with ¹/₂-inch-thick (12.7 mm) Type X gypsum sheathing installed horizontally. The gypsum sheathing must be fastened to the steel framing using No. 6 by 1¹/₄-inch-long (31.8 mm), bugle head, self-drilling screws at 8 inches (203 mm) on center

around the perimeter and 12 inches (305 mm) on center in the field.

The exterior sheathing must be covered with Dorken Systems Inc.'s Delta-Maxx Plus water-resistive barrier ([ESR-2932](#)) for buildings greater than 40 feet (12.2 m) in height above grade plane. For buildings 40 feet (12.2 m) in height or less, the exterior side of sheathing must be covered with Dorken Systems Inc.'s Delta-Maxx Plus ([ESR-2932](#)) or a water-resistive barrier recognized in a current ICC-ES evaluation report, that has a flame-spread rating of 25 or less and a smoke developed rating of 450 or less in accordance with ASTM E84. The water-resistive barrier must be installed in accordance with the water-resistive barrier manufacturer's installation instructions.

The substructure components and Stonewood Exterior Architectural Panels must be installed as described in Sections 4.3.2 and 4.3.3, respectively.

5.0 CONDITIONS OF USE

The Stonewood Exterior Architectural Panels described in this report complies with, or is a suitable alternative 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 project specific structural calculations, details, and instructions, and the applicable code. If there is a conflict between the installation instructions and this report, this report governs.
- 5.2 The maximum allowable wind pressure for the Stonewood Exterior Architectural Panels is shown in Table 1. The capacity of the supporting wall, and the capacity of the connections used to attach the cladding system to the wall, must equal or exceed these wind pressures.
- 5.3 Drawings, design details and calculations verifying compliance with this report and adequacy of the connections and supporting framing must be submitted to the code official for approval. The drawings and calculations must be prepared by a registered design professional when required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.4 A water-resistive barrier complying with 2018 IBC Section 1403.2 [2015 and 2012 IBC Section 1403.2] must be installed behind the wall panel system and over the wall sheathing.
- 5.5 The Stonewood Exterior Architectural Panels must be installed by qualified installers recognized by Fibersin Industries Inc.
- 5.6 The panels are manufactured in Oconomowoc, Wisconsin and Ashippun, Wisconsin, 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 Polymer-based, Polymer-modified and High-pressure Laminate Exterior and Interior Wall Cladding (AC92), dated December 2013 (editorially revised August 2019).
- 6.2 Reports of testing for noncombustible use in accordance with NFPA 285 and NFPA 268.

7.0 IDENTIFICATION

- 7.1 The Stonewood Exterior Architectural Panels are labeled with the report holder's name (Fibersin Industries Inc.) and address; the product name, thickness, color, and batch number; and the evaluation report number (ESR-4154).

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

FIBERESIN INDUSTRIES INC.
 37031 E. WISCONSIN AVENUE
 POST OFFICE BOX 88
 OCONOMOWOC, WISCONSIN 53066
 (262) 567-4427
www.stonewoodpanels.com
info@fiberesin.com

TABLE 1—MAXIMUM FASTENER SPACING AND ALLOWABLE TRANSVERSE LOADS

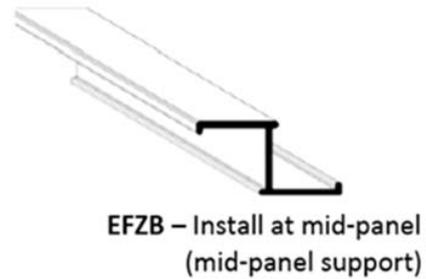
SYSTEM TYPE	PANEL THICKNESS	MAXIMUM FASTENERS/SUPPORT SPACING ¹	ALLOWABLE TRANSVERSE LOAD (psf)	
			Positive	Negative
Exposed fastener system	10 mm	24 inches	50	31

For SI: 1 inch = 25.4 mm; 1 psf = 47.09 N/m²

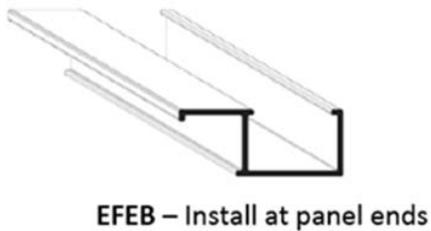
¹Maximum spacing for panel span is 24 inches



Hat – Channel



Z-Channel



J- Channel

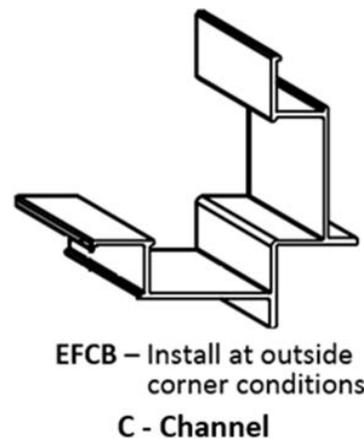


FIGURE 1—SUBSTRUCTURE COMPONENTS

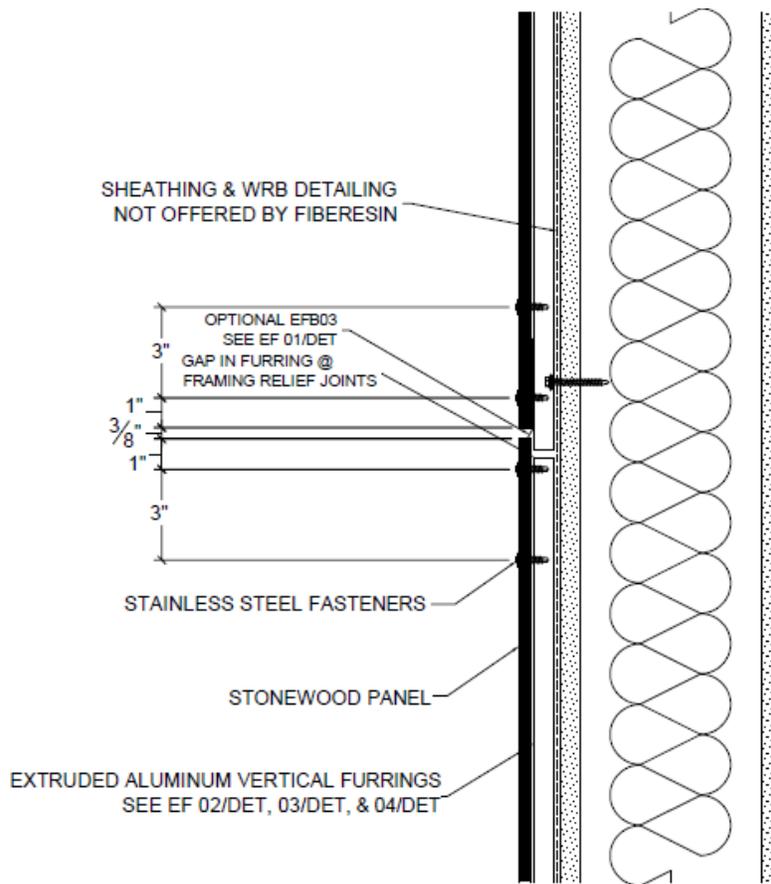


FIGURE 2—STONEWOOD EXTERIOR ARCHITECTURAL PANELS EXPOSED FASTENER SYSTEM DETAILS HORIZONTAL PANEL JOINT

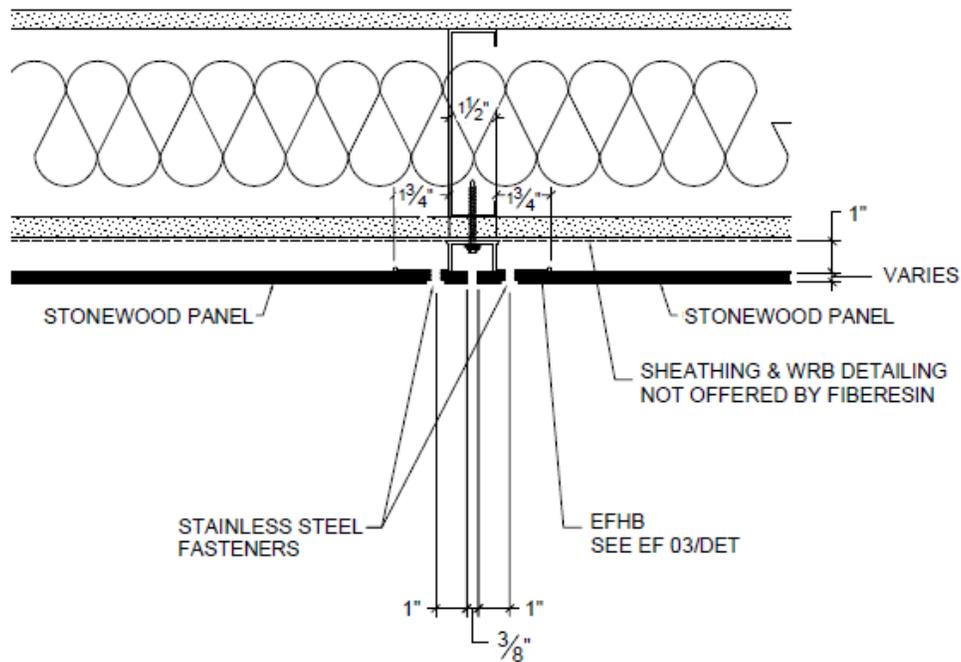


FIGURE 3—STONEWOOD EXTERIOR ARCHITECTURAL PANELS EXPOSED FASTENER SYSTEM DETAILS VERTICAL PANEL JOINT WITH HAT-CHANNEL (EFHB)

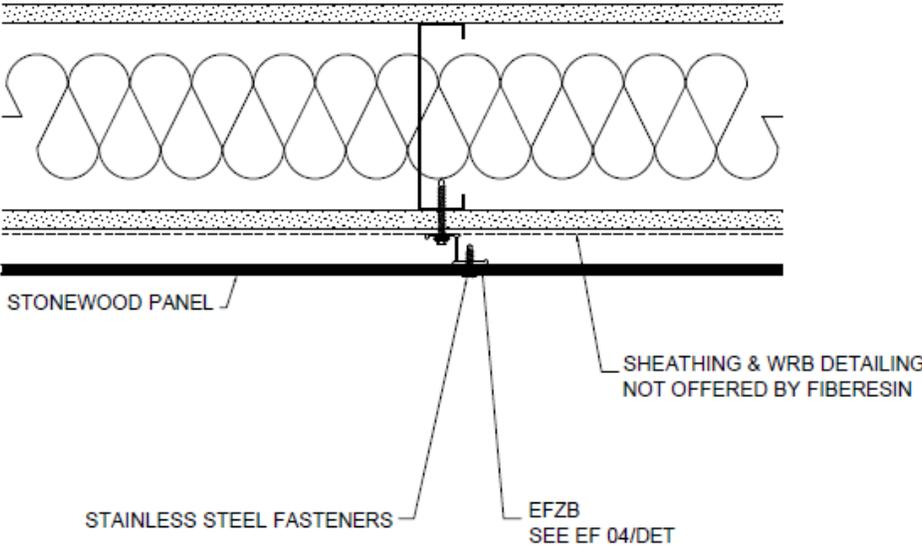


FIGURE 4—STONEWOOD EXTERIOR ARCHITECTURAL PANELS EXPOSED FASTENER SYSTEM DETAILS VERTICAL PANEL JOINT WITH Z-CHANNEL (EFZB)

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FIBERESIN INDUSTRIES INC.

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STONEWOOD EXTERIOR ARCHITECTURAL PANELS

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that Stonewood Exterior Architectural Panels, described in ICC-ES evaluation report [ESR-4154](#), 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 edition:2017 *City of Los Angeles Building Code* (LABC)**2.0 CONCLUSIONS**

The Stonewood Exterior Architectural Panels, described in Sections 2.0 through 7.0 of the evaluation report [ESR-4154](#), comply with the LABC Chapters 8 and 14, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The Stonewood Exterior Architectural Panels described in this evaluation report must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-4154](#).
- The design, installation, conditions of use and identification of the Stonewood Exterior Architectural panels are in accordance with the 2015 *International Building Code*® (2015 IBC) provisions noted in the evaluation report [ESR-4154](#).
- 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 February 2021.

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1.0 REPORT PURPOSE AND SCOPE**Purpose:**

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Applicable code edition:

2016 *California Building Code*® (CBC)

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 Stonewood Exterior Architectural Panels, described in Sections 2.0 through 7.0 of the evaluation report ESR-4154 complies with CBC Chapters 8 and 14, 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 16 and 17, 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.

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Purpose:

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Applicable code edition:

2017 *Florida Building Code—Building*

2.0 CONCLUSIONS

The Stonewood Exterior Architectural Panels, described in Sections 2.0 through 7.0 of the evaluation report ESR-4154, complies with the *Florida Building Code—Building*, provided the design and installation are in accordance with the 2015 *International Building Code*® provisions noted in the evaluation report.

Installation must meet the requirements of Section 1403.8 of the *Florida Building Code—Building*.

Use of the Stonewood Exterior Architectural Panels 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 supplemental report.

For products falling under Florida Rule 9N-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).

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