



ICC-ES Evaluation Report

ESR-4590

Issued September 2021

Revised October 2021

This report is subject to renewal September 2022.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 42 00—Wall Panels

Section: 07 42 43—Composite Wall Panels

REPORT HOLDER:

ARCITELL, LLC

EVALUATION SUBJECT:

QORA CLADDING

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015 and 2012 *International Building Code*® (IBC)
- 2021, 2018, 2015 and 2012 *International Residential Code*® (IRC)

For evaluation for compliance with codes adopted by the Los Angeles Department of Building Safety (LADBS), see [ESR-4590 LABC and LARC Supplement](#).

Properties evaluated:

- Weather resistance
- Decay resistance
- Wind load resistance
- Interior finish
- Types I, II, III and IV Construction
- Protection against termites

2.0 USES

Qora Cladding wall panels are used as a nonload-bearing exterior wall covering on nonfire-resistance-rated buildings in accordance with Chapter 14 of the IBC and Chapter 7 of the IRC. The wall panels may be installed on buildings of all construction types under the IBC and on buildings constructed in accordance with the IRC. The wall panels may also be installed on buildings of Types I, II, III and IV

construction under the IBC, when installed in accordance with Section 4.5 of this report.

The wall panels may also be used for interior applications as a Class A interior wall finish in accordance with Chapter 8 of the IBC.

3.0 DESCRIPTION

3.1 Qora Cladding:

Qora Cladding wall panels are comprised of fiberglass reinforced proprietary thermoset mineral resin skins and a proprietary open-cell mineral foam core cast into nominally 1-inch (25.4 mm) thick panels.

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.

3.2 Sheathing substrate:

- Minimum $7/16$ -inch-thick (11.1 mm) solid plywood structural sheathing complying with DOC PS-1.
- Minimum $7/16$ -inch-thick (11.1 mm) Exposure 1 oriented strand board (OSB) sheathing complying with DOC PS-2.

4.0 INSTALLATION

4.1 General:

Qora Cladding must be installed in accordance with the report holder's published installation instructions, the applicable code, and this report. The report holder's published installation instructions and this report must be strictly adhered to, and a copy of the instructions must be available on the jobsite at all times during installation.

4.2 Wind Resistance:

The allowable wind loads for the wall panels given in Table 1 and the wind load capacity of the underlying wall or substrate, must equal or exceed the design uniform transverse wind loads for the structure and wall panels determined in accordance with Chapter 16 of the IBC or Section R301.2.1 of the IRC, as applicable.

4.3 Installation:

Qora Cladding wall panels must be installed over a substrate capable of withstanding the imposed positive and negative design loads. The sheathing substrate must be fastened to the wall framing in accordance with the applicable code, taking into account the transverse wind loads it will be subjected to in use. The substrate must be covered with an approved water-resistive barrier where required by code.

Qora Cladding must be fastened to sheathing substrates at wall panels fastening locations with minimum No. 8 by 1⁵/₈-inch long self-drilling flat head screws spaced 24 inches o.c. Fasteners must be of sufficient length to penetrate the backside of the sheathing a minimum ³/₄ inch (19.1 mm). Fastening must be in accordance with Table 1 to withstand the allowable positive and negative transverse wind loads. ESR-4590

4.4 Interior Applications:

When installed on the interior of buildings, the wall panels must be installed in accordance with Section 4.3 of this report.

4.5 Exterior Walls of Types I through IV Construction:

When the exterior wall is sheathed with fire retardant treated wood sheathing, the wall panels may be used on the exterior side of exterior walls on buildings of Types I, II, III or IV construction that are not greater than 40 feet (12.2 m) in height above grade in accordance with Exception 2 of the 2021, 2018 and 2015 IBC Section 2613.5 (2012 IBC Section 2612.5). Fireblocking complying with IBC Section 718.2 must be installed. The wall panels must not exceed 10 percent of the wall area when the fire separation distance is 5 feet (1524 mm) or less.

4.6 Termite Resistance:

The wall panels have been evaluated for use in areas subject to subterranean termites, including Formosan termites and resist attack by fungal decay. Locations requiring protection from termites are described in 2021, 2018 and 2015 IBC Section 2603.8 [2012 IBC Section 2603.9] or IRC Section R318.

5.0 CONDITIONS OF USE

The Qora Cladding wall panels 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 applicable code. If there is a conflict between the manufacturer’s published installation instructions and this report, this report governs.
- 5.2 Exterior walls must be braced or sheathed to resist racking loads with approved materials in accordance with the requirements of the applicable code.

- 5.3 The maximum allowable wind pressure for Qora Cladding is shown in Table 1.
- 5.4 A water resistive barrier complying with 2021 and 2018 IBC Section 1403.2 [2015 and 2012 IBC Section 1404.2] must be installed behind the wall panels.
- 5.5 Fireblocking complying with IBC Section 718.2.6 must be installed when the wall panels are installed on building of Types I, II, III and IV construction.
- 5.6 The wall panels must not exceed 10 percent of the wall area on building of Types I, II, III and IV construction when the fire separation distance is 5 feet (1524 mm) or less.
- 5.7 Qora Cladding wall panels are manufactured in Sugarcreek, Ohio 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 2021).
- 6.2 Data in accordance with NFPA 268, Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source.
- 6.3 Data in accordance with AWPA E1, Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.
- 6.4 Data in accordance with ASTM D1413, Standard Test Method for Wood Preservatives by Laboratory Soil-Block Cultures.

7.0 IDENTIFICATION

- 7.1 Product labeling shall include, the name of the report holder or listee, and the ICC-ES mark of conformity. The listing or evaluation report number (ICC-ES ESR-4590) may be used in lieu of the mark of conformity. Product labeling shall include, the name of the report holder or listee (Arcitell, LLC), and the ICC-ES mark of conformity. The listing or evaluation report number (ICC-ES ESR-4590) may be used in lieu of the mark of conformity.
- 7.2 The report holder’s contact information is the following:

ARCITELL, LLC
750 EDELWEISS DRIVE NE
SUGARCREEK, OHIO 44681
(301) 223-2266
www.arcitell.com

TABLE 1—MAXIMUM FASTENER SPACING AND ALLOWABLE TRANSVERSE LOADS

TYPE OF FASTENER TO ATTACH QORA CLADDING TO SHEATHING SUBSTRATES	MAXIMUM FASTENERS/SUPPORT/SPAN SPACING (inches)	ALLOWABLE TRANSVERSE LOAD (psf)	
		Positive	Negative
Four No. 8 by 1 ⁵ / ₈ -inch long self-drilling flat head screws fastened through wall panels fastening locations.	24	101	13

For **S1**: 1 inch =25.4, 1 psf = 47.09 N/m²

¹Maximum allowable transverse wind load capacity determined in accordance with ASTM E330.

²Fastener length shall be sufficient to penetrate back side of wood sheathing a minimum of ³/₄ inch into backside of sheathing.

DIVISION: 00 00 00— THERMAL AND MOISTURE PROTECTION**Section: 07 42 00—Wall Panels****Section: 07 42 43—Composite Wall Panels****REPORT HOLDER:**

ARCITELL, LLC

EVALUATION SUBJECT:

QORA CLADDING

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that Qora Cladding, described in ICC-ES evaluation report [ESR-4590](#), has also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:

- 2020 *City of Los Angeles Building Code* (LABC)
- 2020 *City of Los Angeles Residential Code* (LARC)

2.0 CONCLUSIONS

The Qora Cladding, described in Sections 2.0 through 7.0 of the evaluation report [ESR-4590](#), complies with the LABC Chapters 8 and 14, and the LARC Chapter R7, and is subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The Qora Cladding described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-4590](#).
- The design, installation, conditions of use and identification of the Qora Cladding is in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report [ESR-4590](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- Under the LARC, an engineered design in accordance with LARC Section R301.1.3 must be submitted.

This supplement expires concurrently with the evaluation report, issued September 2021 and revised October 2021.

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REPORT HOLDER:

ARCITELL, LLC

EVALUATION SUBJECT:

QORA CLADDING

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Qora Cladding, described in ICC-ES evaluation report [ESR-4590](#), has also been evaluated for compliance with the codes noted below.

Applicable code edition(s):

- 2019 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.

- 2019 California Residential Code® (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The Qora Cladding, described in Sections 2.0 through 7.0 of the evaluation report [ESR-4590](#), complies with CBC Chapters 8 and 14, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of 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.

2.2 CRC:

The Qora Cladding, described in Sections 2.0 through 7.0 of the evaluation report [ESR-4590](#), complies with CRC Chapter 7, provided the design and installation are in accordance with the 2018 *International Residential Code*® (IRC) provisions noted in the evaluation report.

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1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that Qora Cladding, described in ICC-ES evaluation report [ESR-4590](#), has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2020 Florida Building Code—Building
- 2020 Florida Building Code—Residential

2.0 CONCLUSIONS

The Qora Cladding, described in Sections 2.0 through 7.0 of ICC-ES evaluation report [ESR-4590](#), complies with the *Florida Building Code—Building* and the *Florida Building Code—Residential*. The design requirements must be determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report [ESR-4590](#) for the 2018 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable, with the following conditions:

Installation must meet the requirements of Section 1403.8 of the *Florida Building Code—Building* and Section R318.7 of the *Florida Building Code—Residential*, as applicable.

Use of the Qora Cladding has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* or the *Florida Building Code—Residential* with the following conditions:

- The allowable negative design wind load must not exceed 180 psf (8618 Pa).
 - The wall panels must be installed on minimum $5/8$ -inch-thick solid plywood structural sheathing complying with DOC PS-1 applied vertically.
 - Maximum support/span spacing shall be no more than 16 inches (406 mm) o.c.
 - Qora Cladding must be fastened to sheathing with minimum No. 8 by 3-inch (72.6 mm) bugle head screws spaced 16 inches (406 mm) o.c.
 - The fasteners must be installed through the wood sheathing and into the wood studs. The wood studs must have a minimum specific gravity of 0.42.

In addition to the data noted in Section 6.0 of the evaluation report [ESR-4590](#), data in accordance with *Florida Building Code* Test Protocols for High-Velocity Hurricane Zones, TAS 202 and TAS 203 was submitted.

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).

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