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SWISSPEARL® FIBER-CEMENT PANEL SYSTEM

CSI Section:
07 46 46 Fiber-Cement Siding

1.0 RECOGNITION

The Swisspearl® Fiber-Cement Panel System described in this report has been evaluated for use as an exterior and interior wall covering. The physical, mechanical, durability, weather resistance, wind-load resistance, non-combustibility, and surface burning characteristics of the panel system were evaluated for compliance with the following codes and regulations:

- 2021, 2018, 2015, and 2012 International Building Code® (IBC)
- 2021, 2018, 2015, and 2012 International Residential Code® (IRC)
- 2022 California Building Code (CBC) – Supplement attached
- 2022 California Residential Code (CRC) – Supplement attached
- 2023 City of Los Angeles Building Code (LABC) – Supplement attached
- 2023 City of Los Angeles Residential Code (LARC) – Supplement attached
- 2023 Florida Building Code (FBC, Building) – Supplement attached
- 2023 Florida Building Code, Residential (FBC, Residential) – Supplement attached

2.0 LIMITATIONS

Use of the Swisspearl® Fiber-Cement Panel System described in this report is subject to the following limitations:

2.1 Installation of the Swisspearl® Fiber-Cement Panel System shall be in accordance with this report, the project details, installation instructions, and the applicable code. If there are any conflicts between the manufacturer's published installation instructions and this report, the more restrictive shall govern.

2.2 The maximum allowable wind pressure for the Swisspearl® Fiber-Cement Panel System is provided in Table 1 of this report. The capacities of the supporting wall, framing members, and connections shall be equal to or greater than the allowable wind pressure.

2.3 Where installed as exterior cladding on buildings of Type I, II, III, or IV Construction, the Swisspearl® Fiber-Cement Panel System shall be constructed in accordance with Section 3.4 of this report.

2.4 When use is as an interior wall covering with spaces between adjacent panels, the Swisspearl® Fiber-Cement Panel System shall be installed over a substrate having a Class A finish, complying with 2021 and 2018 IBC Section 803.1.2 or 2015 and 2012 IBC Section 803.1.1, as applicable.

2.5 Maximum panel fastener spacings and fastener contributory area shall be in accordance with Section 3.2 of this report.

3.0 PRODUCT USE

3.1 General: Swisspearl® Fiber-Cement Panels are used as exterior or interior wall covering on buildings of all construction types under the IBC and on buildings constructed under the IRC. The panel system shall be installed in accordance with the applicable code, the manufacturer's installation instructions, and this report. A copy of the installation documents shall always be available on the jobsite during construction.

The Swisspearl® Fiber-Cement Panel System may be used as a non-load-bearing exterior wall covering in accordance with Chapter 14 of the IBC and Chapter 7 of the IRC. The fiber-cement panels may also be used for interior applications as part of a Class A interior wall finish. The panels may be installed on buildings of Types I, II, III, or IV construction when installed in accordance with Section 3.4 of this report.

3.2 Design: Table 1 of this report provides the allowable wind load for the Swisspearl® Fiber-Cement Panel System when used as an exterior wall covering.

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.

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TABLE 1 – Allowable Transverse (Wind) Load		
Panel Thickness Installation Method	**POSITIVE (psf)**	**NEGATIVE (psf)**
8-mm Visible Attachment System	49	48
12-mm Concealed Attachment System	42	40

SI: 1-inch = 25 mm; 1 psf = 0.0479 kPa

The supporting walls, framing members and connections shall be designed to meet the loads prescribed by IBC Chapter 16 or IRC Section R301.2, as applicable. The allowable transverse loads for the Swisspearl® Fiber-Cement Panel System shall equal or exceed the design loads. The attachment of the Panel System to walls or substrates shall be designed by a registered design professional in accordance with the limitations described in Sections 3.2.1 and 3.2.2 of this report and submitted to the building official for approval.

3.2.1 8-mm Visible Attachment System: The 8-mm Visible Attachment System shall have brackets spaced a maximum of 24 inches (610 mm) on-center horizontally or vertically. Each bracket shall be connected to supporting framing, spaced a maximum of 16 inches (406 mm) on-center, with two self-tapping screws, complying with Section 4.1.2 of this report. Horizontal L-Profiles, as described in Section 4.1.3 of this report, shall be secured to each bracket with two self-tapping screws, complying with Section 4.1.2 of this report. Vertical Z-Profiles or Hat-Channels, used behind intersecting panel joints, spaced a maximum of $22^{7}/_{16}$ inches (570 mm) on-center, shall be secured to intersecting L-Profiles with one self-drilling screw, complying with Section 4.1.2 of this report. The 8-mm Swisspearl® Fiber-Cement Panels are fastened to the Z- or Hat-Channel profiles with rivets complying with Section 4.1.2 of this report, spaced a maximum of 24 inches (610 mm) on-center horizontally or vertically with a maximum of 2.5 square feet (0.23 m^2) of contributory panel area per rivet. Rivets shall be a maximum of 4-inches (102 mm) from panel edges.

3.2.2 12-mm Concealed Attachment System: The 12-mm Concealed Attachment System shall have brackets spaced a maximum of 16-inches (406 mm) on-center horizontally and 30 inches (762 mm) on-center vertically. Each bracket shall be connected to supporting framing, spaced a maximum of 16 inches (406 mm) on-center, with self-tapping screws, complying with Section 4.1.2 of this report. Vertical L-Profiles, as described in Section 4.1.3 of this report, shall be secured to each bracket with two self-tapping screws, complying with Section 4.1.2 of this report. Horizontal C-Profiles spaced a maximum of $17^{1}/_{16}$ inches (433 mm) on-center, shall be secured to intersecting L-Profiles with one self-drilling screw, complying with Section 4.1.2 of this report. The 12-mm Swisspearl® Fiber-Cement Panels are fastened to C-Hangers, complying with Section 4.1.3 of this report, with undercut anchors, complying with Section 4.1.2 of this report. The 12-mm panels are connected to C-Hangers with undercut anchors supporting a maximum of 2.1 square feet (0.195 m^2) of contributory panel area per anchor. Undercut anchors shall be spaced a maximum of 18.1 inches (460 mm) on center horizontally or vertically. Anchors shall be a maximum of $5^{7}/_{8}$ inches (150 mm) from panel edges.

3.3 Installation – General: The Swisspearl® Fiber-Cement Panel System shall be installed in accordance with the design documents, the manufacturer's published installation instructions, and this evaluation report.

Exterior wall assemblies shall include a water-resistive barrier, flashing, a means for draining water that enters the assembly to the exterior and protection against condensation in accordance with IBC Sections 1403.2 and 1404.4 or IRC Sections R703.2 and R703.4, as applicable. The Swisspearl® Fiber-Cement Panels may be cut and trimmed in accordance with the design documents and this report. A nominal gap of $^{3}/_{8}$ inch (9.5 mm) shall be maintained at panel-to-panel and panel-to-penetration joints, except that horizontal joints and corners may be closed with joint closures and corner closures as decorative elements when specified by the building designer. The panels may be used for interior applications as part of a Class A interior wall finish.

3.4 Types I, II, III, and IV Construction:

3.4.1 8-mm-thick Panels: The Swisspearl® 8-mm-thick panels using the Visible Attachment System as described in this report may be installed on buildings of Types I, II, III, or IV construction under the IBC. The base wall framing shall be minimum No. 18 gage by $3^{5}/_{8}$-inch (92.1 mm) cold-formed C-channel steel studs spaced 16 inches (406 mm) on-center. The interior side of the studs shall be covered with a minimum of one layer of $^{5}/_{8}$-inch-thick (15.9 mm) Type X gypsum wallboard, complying with ASTM C1396. The exterior side of the studs shall be covered with a minimum of one layer of ½-inch-thick (12.7 mm) glass mat gypsum substrate, Type X, complying with ASTM C1177. The gypsum boards shall be fastened to the studs with 1¼-inch-long (31.7 mm) corrosion-resistant self-tapping screws spaced 12-inches (305 mm) on-center in the field and 8-inches (203 mm) on-center at the perimeters. Stud cavities shall be filled with minimum 4-inch-thick (102 mm) minimum 4 pcf density (64 kg/m^3) mineral wool secured with Z-clips at floor lines. Vertical Z-Profiles shall be installed at 16-inches (406 mm) on-center. Hat-Channels shall be installed at panel joints and fastened to the steel studs with 1¼-inch-long (31.7 mm) corrosion-resistant self-tapping screws. Window and door openings shall be flashed with minimum No. 18 gage steel flashing.

3.4.2 12-mm-thick Panels: The Swisspearl® 12-mm-thick panels using the Concealed Attachment System as described in this report may be installed on buildings of Types I, II, III, or IV construction under the IBC. Installation on exterior walls is limited to heights not greater than 40 feet (12.2 m) above grade plane when the wall assembly includes a combustible water-resistive barrier. For use with combustible water-resistive barriers at heights greater than 40 feet

(12.2 m) above grade plane, the wall constructions shall be tested in accordance with and comply with the acceptance criteria of NFPA 285, in accordance with Section 1402.5 of the 2021 and 2018 IBC and Section 1403.5 of the 2015 and 2012 IBC, as applicable, or when justification is provided and approved by the building official demonstrating that the water-resistive barrier is the only combustible material in the wall assembly and meets Exception 2 of Section 1402.5 of the 2021 and 2018 IBC, or Exception 2 of Section 1403.5 of the 2015 IBC, as applicable.

4.0 PRODUCT DESCRIPTION

4.1 General: The Swisspearl® Fiber-Cement Panel System consists of Swisspearl® Fiber-Cement Panels attached with concealed or visible fasteners to metal brackets which are attached to aluminum or steel track. The Swisspearl Fiber-Cement Panel System has the following trade names; Swisspearl Carat, Swisspearl Gravial, Swisspearl Vintago, Swisspearl Vintago-Reflex, Swisspearl Reflex, Swisspearl Avera, Swisspearl Nobilis, Swisspearl Terra, Swisspearl Planea, and Swisspearl Zenor. See Figure 1 of this report for typical bracket profiles and installation illustrations.

4.1.1 Swisspearl® Fiber-Cement Panels: Swisspearl® Fiber-Cement Panels comply with ASTM C1186 as Type A Grade IV fiber-cement boards, in accordance with 2021 and 2018 IBC Sections 1403.10 and 1404.16 and 2015 and 2012 IBC Sections 1404.10 and 1405.16, as applicable. The Swisspearl® Fiber-Cement Panels are nominally 8 mm or 12 mm (0.31 or 0.47 inch) thick, available in widths up to 1250 mm (49.2 inches) and lengths up to 3070 mm (121 inches). Swisspearl® Fiber-Cement Panels have a flame spread index of 0 and a smoke-developed index of not more than 5 when tested in accordance with ASTM E84 and comply as Class A interior finish in accordance with 2021 and 2018 IBC Section 803.1.2 or 2015 and 2012 IBC Section 803.1.1, as applicable. The boards are classified as noncombustible when tested in accordance with ASTM E136.

4.1.2 Fasteners: Fasteners used with the Swisspearl® Fiber-Cement Panel Systems are shown in Table 2 of this report. Where installed as exterior cladding, fasteners shall be corrosion-resistant.

TABLE 2 – Fasteners

Attachment	8-mm Panel Visible Attachment System	12-mm Panel Concealed Attachment System
Bracket to Framing	¼-20 by 2-inch long self-tapping hex head screws	¼-20 by 2-inch long self-tapping hex head screws
L-Profile to Bracket (8-mm Visible System); or L-Profile to C-Profile (12-mm Concealed System)	No. 10 by 1-inch-long self-tapping hex head screws	No.10 by 1-inch-long self-tapping hex head screws
Z- or Hat-Channel to horizontal L-Profile; or Horizontal C-Profile to Vertical L-Profile	M5.5 by 25 mm self-drilling galvanized screw with sealing washer[1]	M5.5 by 25 mm self-drilling galvanized screw with sealing washer[1]
Panel to C-Hanger	NA	Stainless Steel, threaded, undercut anchors[1]
Panel to vertical Z- or Hat-Profile	Rivets – Stainless steel $^3/_{16}$-inch-diameter 4-by-19/K15 [1]	NA

SI: 1-inch = 25 mm

[1] Provided with the Swisspearl® Fiber-Cement Panel System.

4.1.3 Brackets and Profile Descriptions: Descriptions of the attachment system's elements are shown in Table 3 of this report. The 8-mm thick Swisspearl® panels use the Visible Attachment System. The 12-mm thick Swisspearl® panels use the Concealed Attachment System.

TABLE 3 – Attachment System Elements

Element	8-mm Panel Visible Attachment System (inch)	12-mm Panel Concealed Attachment System (inch)
Brackets [1]	5¼ x 3½ x 1¾	3½ x 2½ x 2[2] or $6^7/_8$ x 2½ x 2[3]
C-Hangers[1]	NA	Proprietary[1]
L-Profiles	1½ x $2^3/_8$ x $^5/_{64}$	1½ x $2^3/_8$ x $^5/_{64}$
Z-Profiles	16 Ga. $1^9/_{16}$ x 1½ x $1^9/_{16}$	NA
Hat-Channels	16 Ga. 2 x 1½ x 2	NA
C-Profiles[1]	NA	Proprietary[1]

SI: 1 inch = 25.4 mm

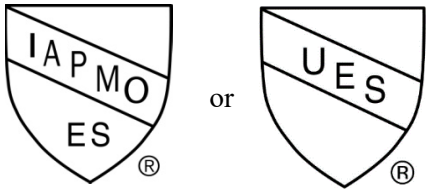
[1] Provided with the Swisspearl® Fiber-Cement Panel System.
[2] Attached with one fastener per bracket.
[3] Attached with two fasteners per bracket.

4.1.4 Metal Tracks and Profiles: Metal framing shall be made of 6063-T6 alloy extruded aluminum complying with ASTM B317, or better.

5.0 IDENTIFICATION

The Swisspearl® Fiber-Cement Panels shall be labeled with the manufacturer's name and address, product trade names

(Swisspearl Carat, Swisspearl Gravial, Swisspearl Vintago, Swisspearl Vintago-Reflex, Swisspearl Reflex, Swisspearl Avera, Swisspearl Nobilis, Swisspearl Terra, Swisspearl Planea, and Swisspearl Zenor), thickness, color, finish, and batch number. The label shall identify the fiber-cement panels as conforming to the requirements of ASTM C1186, Type A; the name of the approved inspection agency, IAPMO QCC; and the IAPMO Evaluation Report Number (ER-551). Either IAPMO UES Mark of Conformity may also be used as shown below:



IAPMO UES ER-551

6.0 SUBSTANTIATING DATA

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Fiber-cement Siding (AC90), Approved October 2020, Editorially Revised December 2020.

6.2 Reports of non-combustibility testing in accordance with ASTM E136.

6.3 Reports of Surface Burning Characteristics testing in accordance with ASTM E84.

6.4 Reports of Fire Propagation Characteristics testing in accordance with NFPA 285.

6.5 Test report are from laboratories in compliance with ISO/IEC 17025.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on the Swisspearl® Fiber-Cement Panel System manufactured in Niederurnen, Switzerland, and Vocklabruck, Austria, to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. Products are manufactured under a quality control program with periodic inspection under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

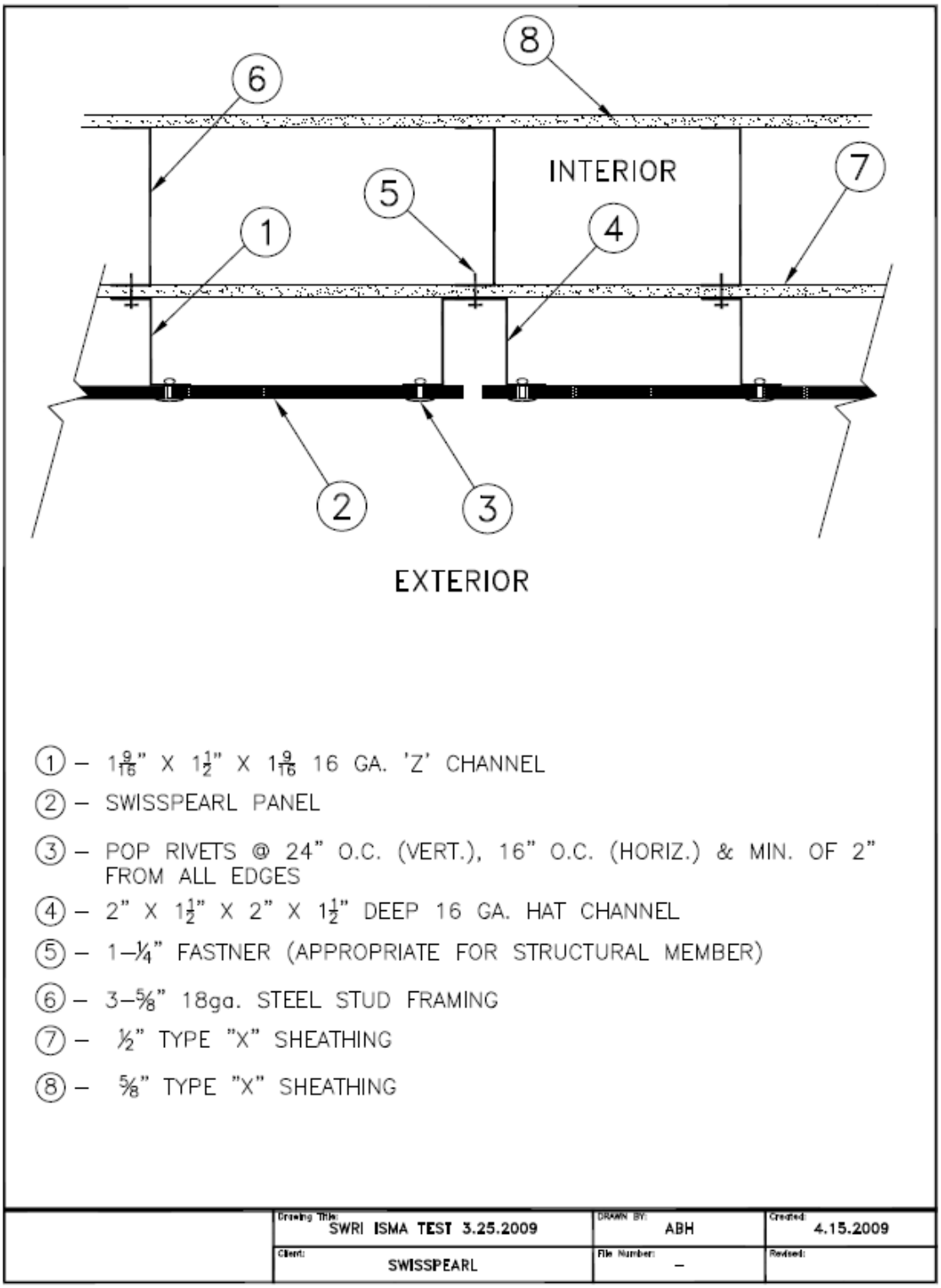


FIGURE 1
SWISSPEARL FIBER-CEMENT PANEL SYSTEM

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SWISSPEARL® FIBER-CEMENT PANEL SYSTEM

CSI Section:
07 46 46 Fiber-Cement Siding

1.0 RECOGNITION

The Swisspearl® Fiber-Cement Panel System described in this report has been evaluated for use as an exterior wall covering. The physical and durability, weather resistance, wind-load resistance, and non-combustibility of the panel system were evaluated for compliance with the following codes and regulations:

- 2022 California Building Code (CBC)
- 2022 California Residential Code (CRC)

2.0 LIMITATIONS

Use of the Swisspearl® Fiber-Cement Panel System when installed and recognized in this report is subject to the limitations stated in Evaluation Report ER-551 and the following additional limitations:

2.1 The design, installation, limitations, and identification of the Swisspearl® Fiber-Cement Panel System shall be in accordance with the 2021 International Building Code or the 2021 International Residential Code, as applicable, as noted in ER-551 unless otherwise noted in this supplement.

2.2 The systems described in this report shall be used and installed in accordance with ER-551 and Chapters 8, 14, and 16 of the CBC, and Chapters 3 and 7 of the CRC, as applicable.

2.3 This supplement expires concurrently with ER-551.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

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SWISSPEARL® FIBER-CEMENT PANEL SYSTEM

CSI Section:
07 46 46 Fiber-Cement Siding

1.0 RECOGNITION

The Swisspearl® Fiber-Cement Panel System as evaluated and presented in IAPMO UES Evaluation Report ER-551 and with changes as noted in the California supplement and this supplement is a satisfactory alternative for use in buildings built under the following codes (and regulations):

- 2023 City of Los Angeles Building Code (LABC)
- 2023 City of Los Angeles Residential Code (LARC)

2.0 LIMITATIONS

Use of the Swisspearl® Fiber-Cement Panel System when installed, designed, and recognized in this report is subject to the limitations stated in Evaluation Report ER-551 and the following additional limitations:

2.1 Drawings, design details, and calculations verifying the adequacy of the fastening to the supporting wall shall be submitted to the structural plan check section for each project for review and approval. The calculations shall be prepared, stamped, and signed by a California registered design professional.

2.2 The systems described in the report shall be used, designed, installed, and inspected in accordance with Chapters 8, 14, 16, and 17 of the LABC and Chapters 3 and 7 of the LARC, as applicable, due to local amendments to these chapters.

2.3 This supplement expires concurrently with ER-551.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

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SWISSPEARL® FIBER-CEMENT PANEL SYSTEM

CSI Section:
07 46 46 Fiber-Cement Siding

1.0 RECOGNITION

The Swisspearl® Fiber-Cement Panel System as evaluated and represented in IAPMO UES Evaluation Report ER-551 and with the changes noted in this supplement is a satisfactory alternative for use in building built under the following codes and regulations:

- 2023 Florida Building Code, Building (FBC, Building)
- 2023 Florida Building Code, Residential (FBC, Residential)

2.0 LIMITATIONS

Use of the Swisspearl® Fiber-Cement Panel System recognized in this report is subject to the following limitations:

2.1 Design requirements shall be determined in accordance with the FBC, Building or FBC, Residential, as applicable.

2.2 For installations in accordance with FBC, Building Section 1403.8, the Swisspearl® Fiber-Cement Panel System shall provide clearance between the panel and final earth grade on the exterior of a building of not less than 6 inches (152 mm) in order to provide for inspection for termite infestation, or in accordance with the Exceptions to Section 1403.8 of the FBC, Building, as applicable.

2.3 Use of the Swisspearl® Fiber-Cement Panel System for compliance with the high-velocity hurricane zone provisions of the FBC, Building and FBC, Residential has not been evaluated and is outside the scope of this evaluation report.

2.4 The design and installation of the Swisspearl ® Fiber-Cement Panel System shall be in accordance with the 2021 International Building Code or the 2021 International Residential Code as applicable, and as noted in ER-551, unless otherwise noted in this supplement.

2.5 For products falling under Section (5)(d) of Florida Rule 61G20-3.001, verification that the report holder's quality assurance program is audited by a quality assurance entity, approved by the Florida Building Commission (or the building official when the report holder does not possess an approval by the Commission), to provide oversight and determine that the products are being manufactured as described in this evaluation report to establish continual product performance.

2.6 This supplement expires concurrently with ER-551.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org