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ADDITION 365 PATIO ENCLOSURE SYSTEM AND ALL SEASONS PATIO **ENCLOSURE SYSTEMS**

CSI Sections:

10 73 00 Protective Covers 13 34 00 Fabricated Engineered Structures

1.0 RECOGNITION

Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems have been evaluated for use as patio covers for recreational, outdoor living purposes associated with a dwelling unit.

The structural properties of the Patio Cover Enclosure Systems comply with the intent of the provisions of the following codes and regulations:

- 2021, 2018, and 2015 International Building Code®
- 2021, 2018, and 2015 International Residential Code®
- 2022 California Building Code® (CBC) Supplement
- 2022 California Residential Code® (CRC) Supplement attached
- 2020 Florida Building Code (FBC, Building)-Supplement attached
- 2020 Florida Building Code, Residential (FBC, Residential)- Supplement attached

The Patio Cover Enclosure Systems comply with Appendix I of the IBC and Appendix H of the IRC.

2.0 LIMITATIONS

Use of the Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems recognized in this report and detailed in the associated plans and specifications ("G" General Notes Drawings, "LRP" Solid Roof Drawings, "GR" Glass Roof Drawings, "EW" Enclosure Wall Drawings, dated January 26, 2021, Revision B dated January 31, 2023) is subject to the following limitations:

2.1 The enclosure systems are limited to use as patio covers and shall not be used as a carport, garage, storage room, or habitable room.

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- 2.2 The enclosure systems shall be attached to residential dwelling units having mean roof heights not exceeding 30 feet (9.1 m) and shall remain open or have enclosure walls as permitted by IBC Appendix I or IRC Appendix H. Enclosure walls shall comply with the configurations permitted in IBC Section I103.1 or IRC Section AH103.1.
- 2.3 The patio enclosures shall have a minimum roof slope of at least ½ inch per foot (4.17 percent slope).
- 2.4 Exterior openings required for light and ventilation of the dwelling unit shall be permitted to open into a patio enclosure conforming to AH102. The patio shall be unenclosed if such openings are required for use as emergency egress or rescue openings from sleeping rooms. Where such exterior openings serve as required exits from the dwelling unit, the patio structure shall be unenclosed or shall be provided with exits conforming to the provisions of IBC Chapter 10 or IRC Section AH103.2.
- 2.5 Calculations prepared by a registered design professional shall be submitted to the building official demonstrating that the design snow loads do not exceed the allowable roof snow loads specified on the plans. The calculations shall address the snow load provisions of IBC Section 1608, including, but not limited to, rain-on-snow surcharge load, unbalanced snow, and snow drift. The effects of sliding snow described in Section 7.9 of ASCE/SEI 7-10 or ASCE/SEI 7-16, or ASCE/SEI 7-16 w/supplement 1, as applicable, are outside the scope of this report.
- **2.6** Adjacent structures to which the patio cover enclosures are attached shall have adequate strength to withstand the additional loads imposed by these enclosures.
- 2.7 Safety glazing shall be installed in hazardous locations set forth in IBC Section 2406 or IRC Section R308.
- **2.8** Analysis shall be provided to the building official to show component and cladding wind loads at the site are less than the capacity of the glass panels in accordance with IBC Chapter 24.
- **2.9** The enclosure systems shall be limited to use in locations associated with IBC Seismic Design Categories A, B, C, or D, and the Response Modification Coefficient, R, shall be taken as 1.0. Seismic coefficients S_s and S₁ shall be limited as described in drawing EW-6 Section J.





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2.10 The Patio Enclosure Systems recognized in this report are manufactured by Four Seasons Solar Products, LLC in Holbrook, NY, and Ontario, CA.

3.0 PRODUCT USE

- **3.1 General:** Design and installation of the Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems shall comply with the applicable codes, the manufacturer's published installation instructions, and this report. All allowable loading conditions shall be as noted in the plans. Where conflicts occur, the most restrictive shall govern.
- **3.2 Design:** Construction documents that include satisfactory information to demonstrate adequate capacity of the adjacent structure to support the additional loads from the attached patio cover shall be submitted to the building official for approval. The additional loading expected to be imposed by the enclosures on the existing buildings is tabulated in the glass roof system and LRP roof system and described in Section 2.0 of this report.

Details including the project location, use (patio cover), corresponding code, and applicable design criteria, including risk category (IBC only), wind speed, wind exposure category, roof live load, ground snow load, seismic design category, and frost line depth shall be placed on or be attached to the plans accompanying this report and shall be observed in the selection of the components. The design criteria determined above shall be used with the design steps and tables in the attached drawings to determine the appropriate configurations of all wall and roof systems based on design loads occurring at the building site.

3.2.1 Roof Systems: The support system for the LRP or glass roof panel shall be designed in accordance with the designs and tables in the attached drawings. LRP roof panels used with the structural components described in this report to form residential patio covers, shall be approved and listed in an evaluation report by a nationally recognized certification program. The roof panels shall be capable of resisting the design loads specified in the drawings. The components shall be designed as described in Section 3.2 of this report to support the loads described in the attached drawings. The LRP panels shall be manufactured and installed in accordance with the listing or evaluation report that governs their use. The support framing system for the glass roof panels shall be designed as detailed in the applicable specifications and plans as referenced in Section 2.0 of this report, in accordance with IBC Section 2403.3 with deflection limited to the lesser of L/175 of the glass edge length or 0.75 inch (19 mm). Glass panels shall be as described in Section 4.2.3 of this report.

3.2.2 Wall Panels: The wall panels, used as solid fill sections in the attached drawings, shall be approved and listed in an evaluation report by a nationally recognized certification program or other approved source as defined in IBC Section 104.11.1 and accepted by IAPMO Uniform Evaluation Service. The wall panels shall be capable of resisting the design loads specified in the drawings.

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- **3.2.3 Assembly:** The assembly of the components determined for use in Sections 3.2.1 and 3.2.2 of this report shall be in accordance with the details provided in this report and in accordance with the local governing building code.
- **3.3 Installation:** The Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems shall be installed in accordance with the accompanying plans. Installation and thermal barrier installation requirements of roof panels, wall panels, and glazed panels shall be in accordance with their respective evaluation reports. Approved sealants or caulking are required at any penetrations made in the weather-resistant exterior wall envelope as required by IBC Chapter 14.

4.0 PRODUCT DESCRIPTION

4.1 Product Information: Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems comply with the IBC Appendix I and IRC Appendix H. The patio covers have either laminated sandwich panel roofs or glass roof panes as described in the set of plans accompanying this report. The patio enclosure walls contain laminated sandwich panels or glass panes as described in the set of plans accompanying this report. The enclosures are designed to resist wind and seismic loads under the limits of this report and associated plans. The enclosures are attached to and rely on adjacent structures to resist the lateral loads imposed by the patio enclosures. The attached patio covers shall be open on three sides.

Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems are available in Lean-to or Gable Style enclosures and consist of an aluminum and steel framing system with sandwich panels or glazed wall panels and a laminated sandwich panel or glass panel roof.

4.2 Material Information

- **4.2.1 Glazing:** Glass panes supplied with patio cover enclosure systems are tempered and comply with Chapter 24 of the IBC and Section R308 of the IRC.
- **4.2.2 LRP Roof System:** The laminated sandwich roof panel system described in drawings sheets LRP-1 through LRP-18 consists of aluminum ledger, beam, rail, and post extrusions. The LRP roof panels are made of polystyrene foam plastic

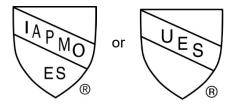
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cores and aluminum skins and are outside the scope of the recognition of this report.

- **4.2.3 Glass Roof System:** The glass roof system as described in drawing sheets GR-1 through GR-19 shall be identified in accordance with Chapter 24 of the IBC. The glazing for the glass roof shall be impact resistant when required by Section 1609.2 of the 2018 IBC, Section 1609.1.2 of the 2015 IBC, or Section R308 of the IRC.
- **4.2.4 Wall Panels:** The laminated sandwich panels shall be constructed of minimum 0.024-inch (0.61 mm) aluminum facing and 1.0 pcf (16.0 kg/m³) expanded polystyrene foam plastic insulation and shall conform to the minimum specifications in the drawings.
- **4.2.5 Aluminum, Steel, Fasteners, and Sealant:** The aluminum, steel, fasteners, and sealant minimum specifications shall be as required in the drawings.

5.0 IDENTIFICATION

A label shall be affixed on the product or packaging. A diestamp label may also substitute for the label. The label shall include the company name or trademark, model number, and the Evaluation Report Number (ER-727) to identify the products recognized in this report. Either IAPMO UES Mark of Conformity may be also used as follows:



IAPMO UES ER-727

6.0 SUBSTANTIATING DATA

Data complying with the ICC-ES Acceptance Criteria for Patio Covers (AC340) approved August 2018, editorially revised August 2021, quality control manuals (Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems), product drawings, and installation instructions.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on the Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems to assess their conformance to the codes shown in Section 1.0 of this report and documents the product's certification. Products are manufactured at locations noted in Section 2.10 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

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CALIFORNIA SUPPLEMENT

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10 73 00 Protective Covers13 34 00 Fabricated Engineered Structures

1.0 RECOGNITION

Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure as evaluated and represented in IAPMO UES Evaluation Report ER-727 and with changes as noted in this supplement are satisfactory alternatives for use in buildings built under the following codes:

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

2.0 LIMITATIONS

Use of the Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems recognized in ER-727 and this report supplement is subject to the following limitations:

- **2.1** Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems recognized in ER-727 and detailed in the associated plans ("G" General Notes Drawings, "LRP" Solid Roof Drawings, "GR" Glass Roof Drawings, "EW" Enclosure Wall Drawings, dated January 26, 2021, Revision B dated January 31, 2023) and specifications comply with the codes listed in Section 1.0 of this report. The systems are residential attached patio covers used as recreational, outdoor living, enclosed structures conforming to Appendix I of the CBC, and Appendix H of the CRC, and not as carports, garages, storage rooms, or habitable rooms.
- **2.2** The design, installation, and_inspection of the Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems shall be in accordance with the 2021 International Building Code and the 2021 International Residential Code as noted in ER-727.

- **2.3** The patio enclosures shall be constructed in accordance with the attached Evaluation Report, ER-727, the drawings accompanying the report, the manufacturer's published installation instructions, and the California Building and Residential Codes. Where conflicts occur, the most restrictive shall govern.
- **2.4** The patio enclosures require openings in accordance with Appendix I of the CBC, and Appendix H of the CRC. Required light, ventilation, and emergency egress exterior openings from the existing structure shall be permitted to open into a patio structure conforming to AH102. The patio structure shall be unenclosed if such openings are serving as emergency egress or rescue openings from sleeping units. Where such exterior openings serve as an exit from the dwelling unit, the patio structure, unless unenclosed, shall be provided with exits conforming to the provisions of CRC Section AH105.
- **2.5** Installation in a Fire Hazard Severity Zone or a Wildland-Urban Interface Fire Area shall comply with the applicable requirements in CBC Chapter 7A or CRC Section R337.
- **2.6** This supplement expires concurrently with ER-727.

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FLORIDA SUPPLEMENT

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1.0 RECOGNITION

Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems as evaluated and represented in IAPMO UES Evaluation Report ER-727 and with changes as noted in this supplement are satisfactory alternatives for use in buildings built under the following codes:

- 2020 Florida Building Code®, Building (FBC, Building)
- 2020 Florida Building Code®, Residential (FBC, Building)

2.0 LIMITATIONS

Use of the Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems recognized in ER-727 is subject to the following limitations:

- **2.1** Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems recognized in ER-727 and detailed in the associated plans ("G" General Notes Drawings, "LRP" Solid Roof Drawings, "GR" Glass Roof Drawings, "EW" Enclosure Wall Drawings, dated January 26, 2021, Revision B dated January 31, 2023) and specifications comply with the codes listed in Section 1.0 of this report.
- **2.2** The design, installation, and inspection of the Four Seasons Addition 365 Patio Enclosure System and All Seasons Patio Enclosure Systems shall be in accordance with the 2018 International Building Code and the 2018 International Residential Code as noted in ER-727.

- **2.3** Use and installation shall be in accordance with ER-727, the referenced corresponding drawings in Section 2.1 of this supplement, the manufacturer's installation instructions, and Appendix I of the FBC, Building, or Appendix H of the FBC, Residential, as applicable. The systems are not used as carports, garages, storage rooms, or habitable rooms.
- **2.4** The site-specific design criteria for live load, wind speed and exposure category, seismic design category, rain load, and ground snow load conditions shall be determined in accordance with Chapter 16 of the FBC, Building, or Section R301 of the FBC, Residential, as applicable. The appropriate configurations for the systems shall be determined in accordance with Section 3.2 of ER-727 based on the design loads determined for the building site in accordance with the FBC, Building, or FBC, Residential, as applicable,
- 2.5 Glazed openings shall be impact resistant where required by Section 1609.1.2 of the FBC, Building and shall be in accordance with Chapter 24 of the FBC, Building, or Appendix H of the FBC, Residential, as appliable. Enclosure wall configurations forming enclosed attached residential patio covers shall conform to the limits noted in Section I103 of the FBC, Building, and Section AH103 of the FBC, Residential, as applicable.
- **2.6** 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.
- **2.7** 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 shall be provided for products falling under Section (5)(d) of Florida Rule 61G20-3.009.
- **2.8** This supplement expires concurrently with ER-727.

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