ICC EVALUATION SERVICE®

ICC-ES Evaluation Report

ESR-1953P

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DIVISION: 10 00 00—SPECIALTIES
Section: 10 73 00—Protective Covers

REPORT HOLDER:

FOUR SEASONS BUILDING PRODUCTS, LLC

EVALUATION SUBJECT:

PATIO COVERS, CARPORTS AND COMMERCIAL ROOF STRUCTURES

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2018, 2015, 2012, 2009 and 2006 *International Residential Code*® (IRC)

Property evaluated:

Structural

1.2 Evaluation to the following green code(s) and/or standards:

- 2019 California Green Building Standards Code (CALGreen), Title 24, Part 11
- 2020, 2015, 2012 and 2008 ICC 700 *National Green Building Standard*™ (ICC 700-2020, ICC 700-2015, ICC 700-2012 and ICC 700-2008)

Attributes verified:

See Section 3.1

2.0 USES

The Four Seasons Building Products freestanding and attached patio covers described in this report are used as patio covers complying with Appendix I of the IBC and Appendix H of the IRC. Freestanding and attached carports and commercial structures are used as covers where permitted by the applicable chapters and sections of the IBC, including IBC Section 406.

3.0 DESCRIPTION

3.1 General:

The freestanding and attached patio covers, carports and commercial structures must be constructed as indicated in this report and in accordance with the engineering plans accompanying this report. The walls must be unenclosed on three sides for attached patio covers, and on four sides for freestanding patio covers, carports and commercial structures.

The attributes of the patio cover system have been verified as conforming to the provisions of (i) CALGreen Section A4.404.3.3 and (ii) ICC 700-2020, ICC 700-2015 and ICC 700-2012 Sections 601.5 and 11.601.5; and (iii) ICC 700-2008 Section 601.5. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

3.2 Materials:

3.2.1 Aluminum: The aluminum members and connecting elements are roll-formed and extruded shapes of various alloys and tempers, complying with Chapter 20 of the IBC and as specified in the engineering plans accompanying this report.

3.2.2 Steel: The steel members and connecting elements are made from steel having various grades and galvanized coating designation as specified in the engineering plans accompanying this report.

3.3 Foam Core Sandwich Panels:

The Four Seasons Building Products laminated foam roof sandwich panels used as components of patio covers only must be designed and installed in accordance with ESR-2229.

3.4 Mechanical Fasteners and Anchors:

Mechanical fasteners and anchors used for connection amongst components of the cover structures (including patio covers, carports and commercial structures), and for connection of the attached cover structures to the supporting structures, must be in accordance with the engineering plans accompanying this report.

4.0 DESIGN AND INSTALLATION

The design and installation of the patio covers, carports and commercial structures described in this report must be in accordance with this report and with the accompanying engineering plans, dated October 25, 2019 (for the 2018 IBC/IRC), January 26, 2017 (for the 2015 IBC/IRC), February 24, 2014 (for the 2012 IBC/IRC), December 5, 2011 (for the 2009 IBC/IRC), and May 30, 2010 (for the 2006 IBC/IRC), as referenced in Tables 1, 2, 3 and 4, respectively.

5.0 CONDITIONS OF USE

The Four Seasons Building Products, freestanding and attached patio covers, carports, and commercial structures 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 Construction of patio covers, carports and commercial structures must comply with this report and the engineering plans accompanying this report dated October 25, 2019 (for the 2018 IBC/IRC), January 26, 2017 (for the 2015 IBC/IRC), February 24, 2014 (for the 2012 IBC/IRC), December 5, 2011 (for the 2009 IBC/IRC), or May 30, 2010 (for the 2006 IBC/IRC), as referenced in Tables 1, 2, 3 and 4, respectively. Where there is a conflict between this report and the plans, this report governs.

5.2 Patio covers are limited to use as structures regulated under Appendix I of the IBC and Appendix H of the IRC. For columns supporting loads greater than 750 lbf (3336 N) when attached to 3.5-inch (89 mm) concrete slab on grade without footings, a registered design professional must provide design and calculations to the satisfaction of the code official

5.3 Carports and commercial structures are limited to use as structures regulated by the applicable chapters and sections of the IBC, including IBC Section 406.

5.4 Any unit built in an area with a flat roof snow load greater than 30 psf in Seismic Design Category A, B, C, D, D0, D1, D2, E, or F, and not complying with Exception 1 of IBC Section 1613.1, is outside the scope of this report, except as permitted in the engineering plans corresponding to the 2018, 2015 and 2012 IBC codes. The 2018 and 2015 IBC engineering plans address seismic loads with roof snow loads over 30 psf.

5.5 Patio covers, carports and commercial structures installed in geographical areas cited in Section 26.8.1 of ASCE 7-16 for the 2018 IBC/IRC and ASCE 7-10 for the 2015 and 2012 IBC/IRC (Section 6.5.7.1 of ASCE 7-05 for the 2009 and 2006 IBC/IRC) are outside the scope of this report.

5.6 Effects of sliding snow described in Section 7.9 of ASCE 7 (-16 for the 2018 IBC/IRC, -10 for the 2015 and 2012 IBC/IRC, -05 for the 2009 and 2006 IBC/IRC) are outside the scope of this report.

5.7 The minimum live load for patio covers must be 10 psf (47.88 Pa). The minimum live load for carports and commercial structures must be 20 psf (95.76 Pa).

5.8 For attached patio cover structures, the mean roof height of the structure to which the patio cover is attached must not exceed 30 feet (9.1 m).

5.9 For attached units, the loads that are to be resisted by the structures to which the patios, carports and commercial structures are attached, as applicable, are provided in the accompanying engineering plans. The adequacy of the structures that support the additional loading from the attached units must be justified, by a registered design professional, when required by the jurisdiction where the project is located, and the justification is subject to the approval of the code official.

5.10 Plans, details and specifications concerning proper installation of the patio covers, carports and commercial structures, that are applicable to the specific building under consideration, must be part of the construction documents submitted to the code official for approval.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Patio Covers (AC340), dated August 2018.

7.0 IDENTIFICATION

7.1 Each structure bears a permanent decal or identifying tag stating allowable roof live/snow load, design wind speed and exposure, name of manufacturer, and the ICC-ES evaluation report number (ESR-1953P).

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

FOUR SEASONS BUILDING PRODUCTS, LLC
5005 VETERANS MEMORIAL HIGHWAY
HOLBROOK, NEW YORK 11741
(714) 522-7852
www.fourseasonsbuildingproducts.com

TABLE 1—FOUR SEASONS BUILDING PRODUCTS: ENGINEERING PLANS (Dated October 25, 2019) FOR PATIO COVERS, CARPORTS, AND COMMERCIAL STRUCTURES (For the 2018 IBC/IRC)

DRAWING	PAGES	SECTION DESCRIPTION
	1	Table of Contents
MUSAGN01.DWG	1	General Notes and Tributary Width Diagram
MUSAGN01b.DWG	1	General Notes and Professional Engineering Stamps
Lattice Cover Components and Connection Details		
LAT01.DWG	1	Structural Configurations
LAT02.DWG LAT03.DWG LAT04.DWG LAT05.DWG	4	Components and Connection Details
	4	Lattice 1.0 Rafter Spans for Commercial and Patio Structures
	48	Lattice 2.0 Post Spacings for Lattice Patio and Commercial Covers
Solid Cover Components and Connection Details		
MUSA01a.DWG MUSA01b.DWG	2	Structural Configurations

TABLE 1—FOUR SEASONS BUILDING PRODUCTS: ENGINEERING PLANS (Dated October 25, 2019) FOR PATIO COVERS, CARPORTS, AND COMMERCIAL STRUCTURES (For the 2018 IBC/IRC) [Continued]

MUSA02.DWG MUSA03.DWG MUSA04.DWG MUSA05.DWG MUSA06.DWG MUSA07.DWG MUSA08.DWG MUSA09.DWG MUSA10.DWG	9	Components and Connection Details
	11	4.0 Panel Spans for Patio, Carport, and Commercial Structures
	90	5.0 Post Spacings for Patio and Commercial Covers in Normal Wind Areas
Misc1a and Misc1b	2	7.0 Miscellaneous Details
Misc2	1	7.0 Fan Beam Details
Misc3	1	7.0 Post and Fastener Requirements for All Structures
Misc4	2	7.0 Concrete Footing Options
Misc5	2	7.0 Requirements for Lattice Structures with Surface Mounted Posts on Concrete Slabs or Footings
Misc6	1	7.0 Forces on Existing Structures
Misc7	1	7.0 Structural Properties of Beams, Fascia, Panels and Rafters for use by Design Professionals
Misc8	1	7.0 Concrete Slab Requirements for Constrained Footings

TABLE 2—FOUR SEASONS BUILDING PRODUCTS: ENGINEERING PLANS (Dated January 26, 2017) FOR PATIO COVERS, CARPORTS, AND COMMERCIAL STRUCTURES (For the 2015 IBC/IRC)

DRAWING	PAGES	SECTION DESCRIPTION
	1	Table of Contents
MUSAGN01.DWG	1	General Notes and Tributary Width Diagram
MUSAGN01b.DWG	1	General Notes and Professional Engineering Stamps
Lattice Cover Components and Connection Details		
LAT01.DWG	1	Structural Configurations
LAT02.DWG LAT03.DWG LAT04.DWG LAT05.DWG	4	Components and Connection Details
	1	Section 1.0 Lattice Cover Instructions and Post Tables
	2	Section 1.0 Rafter Spans for Commercial and Patio Structures
	22	Section 2.0 Post Spacing, Post Type and Footing Size for Lattice Cover
Solid Cover Components and Connection Details		
MUSA01a.DWG	1	Structural Configurations
MUSA01b.DWG	1	Structural Configurations (with References to Construction Details)
MUSA02.DWG MUSA03.DWG MUSA04.DWG MUSA05.DWG MUSA06.DWG MUSA07.DWG MUSA08.DWG MUSA09.DWG MUSA10.DWG	9	Components and Connection Details
	1	Section 4.0 Solid Cover Instructions and Post Tables
	6	Solid Covers 4.0 Panel Spans for Commercial and Patio Structures
	38	Section 5.0 Post Spacing, Post Type and Footing Size for Solid Covers
Misc1a and Misc1b	2	Miscellaneous Details
Misc2	1	Fan Beam Details
Misc3-2015	1	7.0 Post and Fastener Requirements for Commercial and Patio Structures
Misc4-2015	1	7.0 Concrete Footing Options
Misc5a-2015 and Misc5b-2015	2	7.0 Requirements for Surface Mounted Posts on Concrete Slabs or Footings for Single Span Attached Lattice Structures
Misc6-2015	1	7.0 Forces on Existing Structures
Misc7-2015	1	7.0 Structural Properties of Beams, Fascia, Panels and Rafters For use by Design Professionals
Misc8-2015	1	7.0 Concrete Slab Requirements for Constrained Footings

TABLE 3—FOUR SEASONS BUILDING PRODUCTS: ENGINEERING PLANS (Dated February 24, 2014) FOR PATIO COVERS, CARPORTS, AND COMMERCIAL STRUCTURES (For the 2012 IBC/IRC)

DRAWING	PAGES	SECTION DESCRIPTION
	1	Table of Contents
MUSAGN01.DWG	1	General Notes and Tributary Width Diagram
MUSAGN01b.DWG	1	General Notes and Professional Engineering Stamps
Lattice Cover Components and Connection Details		
LAT01.DWG	1	Structural Configurations
LAT02.DWG LAT03.DWG LAT04.DWG LAT05.DWG	4	Components and Connection Details
	4	Lattice 1.0 Rafter Spans for Commercial and Patio Structures
	8	Lattice 2.0 Post Spacings for Lattice Patio and Commercial Covers Using Aluminum and Steel Headers in Normal Wind Areas
	4	Lattice 3.0 Post Spacings for Lattice Patio and Commercial Covers Using Aluminum and Steel Headers in High MPH Wind Areas
Solid Cover Components and Connection Details		
MUSA01a.DWG	1	Structural Configurations
MUSA01b.DWG	1	Structural Configurations (with References to Construction Details)
MUSA02.DWG MUSA03.DWG MUSA04.DWG MUSA05.DWG MUSA06.DWG MUSA07.DWG MUSA08.DWG MUSA09.DWG MUSA10.DWG	9	Components and Connection Details
	6	Solid Covers 4.0 Panel Spans for Patio, Carport and Commercial Structures
	28	Solid Covers 5.0 Post Spacings for Patio and Commercial Covers in 115 MPH Wind Areas
	28	Solid Covers 6.0 Post Spacings for Patio and Commercial Covers in High MPH Wind Areas
Misc1a and Misc1b	2	7.0 Miscellaneous Details
Misc2	1	7.0 Fan Beam Details
Misc3	1	7.0 Post and Fastener Requirements for all Structures
Misc4	1	7.0 Concrete Footing Options
Misc5	2	7.0 Requirements for Single Span Attached Lattice Structures with Surface Mounted Posts on Concrete Slabs or Footings
Misc6	1	7.0 Forces on Existing Structures
Misc7	1	7.0 Structural Properties of Beams, Fascia, Panels and Rafters For use by Design Professionals
Misc8	1	7.0 Concrete Slab Requirements for Constrained Footings

TABLE 4—FOUR SEASONS BUILDING PRODUCTS: ENGINEERING PLANS (Dated December 5, 2011) FOR PATIO COVERS, CARPORTS, AND COMMERCIAL STRUCTURES (For the 2009 IBC/IRC)

DRAWING	PAGES	SECTION DESCRIPTION
	1	Table of Contents
MUSAGN01.DWG	1	General Notes and Tributary Width Diagram
MUSAGN01b.DWG	1	General Notes and Professional Engineering Stamps
Lattice Cover Components and Connection Details		
LAT01.DWG	1	Structural Configurations
LAT02.DWG LAT03.DWG LAT04.DWG LAT05.DWG	4	Components and Connection Details
	2	Lattice 1.0 Rafter Spans for Commercial and Patio Structures
	6	Lattice 2.0 Post Spacings for Lattice Patio and Commercial Covers Using Aluminum and Steel Headers in 90 MPH Wind Areas
	6	Lattice 3.0 Post Spacings for Lattice Patio and Commercial Covers Using Aluminum and Steel Headers in High MPH Wind Areas
Solid Cover Components and Connection Details		
MUSA01a.DWG	1	Structural Configurations
MUSA01b.DWG	1	Structural Configurations (with References to Construction Details)
MUSA02.DWG MUSA03.DWG MUSA04.DWG MUSA05.DWG MUSA06.DWG MUSA07.DWG MUSA08.DWG MUSA09.DWG MUSA10.DWG	9	Components and Connection Details
	6	Solid Covers 4.0 Panel Spans for Patio, Carport and Commercial Structures
	28	5.0 Post Spacings for Patio and Commercial Covers in 90 MPH Wind Areas
	28	6.0 Post Spacings for Patio and Commercial Covers in High MPH Wind Areas
M1.DWG	1	7.0 Miscellaneous Details
M3	1	7.0 Post and Fastener Requirements for All Structures
M4	1	7.0 Concrete Footing Options
M5	1	7.0 Requirements for Lattice Structures with Surface Mounted Posts on Concrete Slabs or Footing
M6	1	7.0 Loads on Existing Building Supporting Attached Patio Cover Structure
M7	1	7.0 Structural Properties of Beams, Fascia, Panels and Rafters for Use by Design Professionals
M8	1	7.0 Concrete Slab Requirements for Constrained Footings

TABLE 5—FOUR SEASONS BUILDING PRODUCTS: ENGINEERING PLANS (Dated May 30, 2010) FOR PATIO COVERS, CARPORTS, AND COMMERCIAL STRUCTURES (For the 2006 IBC/IRC)

DRAWING	PAGES	SECTION DESCRIPTION
	1	Table of Contents
	1	Professional Engineering Stamps
MUSAGN01.DWG	1	General Notes and Tributary Width Diagrams
Lattice Cover Components and Connection Details		
LAT01.DWG	1	Structural Configurations
LAT02.DWG LAT03.DWG LAT04.DWG LAT05.DWG	4	Components and Connection Details
	2	Lattice 1.0 Rafter Spans for Commercial and Patio Structures
	4	Lattice 2.0 Post Spacings for Lattice Patio and Commercial Covers Using Aluminum and Steel Headers in 90 MPH Wind Areas
	4	Lattice 3.0 Post Spacings for Lattice Patio and Commercial Covers Using Aluminum and Steel Headers in High MPH Wind Areas
Solid Cover Components and Connection Details		
MUSA01.DWG	1	Structural Configurations
MUSA02.DWG MUSA03.DWG MUSA04.DWG MUSA05.DWG MUSA06.DWG MUSA07.DWG MUSA08.DWG MUSA09.DWG MUSA10.DWG	9	Components and Connection Details
	6	Solid Covers 4.0 Panel Spans for Patio and Commercial Structures
	20	Post Spacings for Patio and Commercial Covers in 90 MPH Wind Areas
	20	Post Spacings for Patio and Commercial Covers in High MPH Wind Areas
M1.DWG	1	7.0 Miscellaneous Details
M2	1	7.0 Post and Fastener Requirements for All Structures
M3	1	7.0 Concrete Footing Options
M4	1	7.0 Requirements for Lattice Structures with Surface Mounted Posts on Concrete Slabs or Footing
M5	1	7.0 Loads on Existing Building Supporting Attached Patio Cover Structure
M6	1	7.0 Structural Properties of Beams, Fascia, Panels and Rafters for Use by Design Professionals