ICC EVALUATION SERVICE

ICC-ES Evaluation Report

ESR-1862

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DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 40 00—Roofing and Siding Panels
Section: 07 46 00—Siding

REPORT HOLDER:

CEDAR VALLEY MANUFACTURING, INC.

EVALUATION SUBJECT:

CEDAR VALLEY SIDING AND MANSARD PANELS

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2012, 2009 and 2006 *International Residential Code*® (IRC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)†

†The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Property evaluated:

- Weather resistance
- Structural-Transverse Wind Load Resistance

2.0 USES

Cedar Valley Shingle and Mansard panels are used as exterior wall veneer on buildings of Type VB construction under the IBC (except as permitted in Section 5.2 of this report), and on structures constructed in accordance with the IRC.

3.0 DESCRIPTION

3.1 General:

Panels are pre-assembled using vertical or mixed grain Western Red Cedar tapered shingles secured to $^{11}/_{32}$-inch (8.73 mm) Exposure 1 plywood sheathing over coated-glass-fiber mat. The shingles are attached to the plywood sheathing using adhesive and galvanized staples.

3.2 Types of Panels:

3.2.1 Sidewall Shingle Panels: The panels are manufactured in a single course with $7^{1}/_{8}$-, 5.3-, or 4.25-inch (181, 135, 108 mm) exposures. The panels have an exposure length of 96 inches (2438 mm). The panel ends have an overlapping joint which provides a minimum layer of fiberglass felt and shingle over all vertical sheathing seams. The shingles are supplied with either regular-sawn or rough-sawn surface and either a straight or staggered butt line.

3.2.2 Decorator Shingle Siding Panels: The decorative panels are manufactured in a single course with $7^{1}/_{8}$- or 5.3-inch (181,135 mm) exposures. The panels have an exposure length of 96 inches (245 mm). The shingles are supplied with either regular-sawn or rough-sawn surface and are supplied with butts in nine different patterns: round, fish-scale, octagon, hexagon, diamond, full cove, arrow, diagonal, or square.

3.2.3 Mansard Panels: The panels are manufactured with the cedar shingles in a single course with a 14-inch (356 mm) exposure. The panels have an exposure of 96 inches by 14 inches (2438 mm by 356 mm) with a net coverage of 9.33 sq. ft. (0.87 m^2).

3.3 Materials:

3.3.1 Fasteners: 8d common wire and 8d ring shank corrosion-resistant nails.

3.3.2 Shingles and Shakes: Vertical and mixed grain shingles and No. 1 Grade Western Red Cedar tapered shakes.

3.3.3 Plywood: Exposure 1, CDX glue plywood, $^{11}/_{32}$-inch (8.7 mm) thick complying with DOC PS 1.

3.3.4 Staples: No. 18 gauge $^{1}/_{2}$-inch (12.70 mm) long, $^{1}/_{4}$-inch (6.4 mm) crown galvanized steel staples and stainless steel staples.

3.3.5 Coated Glass-Fiber Mat: GAF Versashield® underlayment recognized in ESR-2053, or coated glass-fiber mat complying with ASTM D2178 (Type IV) or ASTM D146.

3.3.6 Construction Adhesive: APA specification AFG01, exterior grade.

3.3.7 Corners: Flush-mounting and add-on pre-assembled corner units are available to match panel texture and exposure.

4.0 DESIGN AND INSTALLATION

4.1 General:

Cedar Valley Shingle Siding and Mansard Panels must be installed in accordance with the manufacturer's published installation instructions and this report.

Studs or mansard rafters must not exceed 24 inches (610 mm) on center. An approved water-resistive barrier complying with the applicable code must be installed over the studs. All panel vertical joints must be positioned over framing members. Stud walls must be braced in accordance with the applicable code. All windows, doors,

or other openings must be flashed in accordance with the applicable code. Flashing must be provided at intersections of different materials and all points subject to the entrance of water. The panels must be installed so as to maintain a minimum 6 inches (152 mm) of clearance between the panels and the earth on the exterior of the building. Flush cut joints must be sealed with caulk.

The manufacturer's published installation instructions and this report must be strictly adhered to and a copy of these instructions must be available at all times on the jobsite during installation.

4.2 Transverse Wind Load Assemblies:

4.2.1 Single-Course Mansard Panels installed on Wood Studs Spaced 16 inches on Center, Maximum Allowable Wind Pressure and Wind Speed – Table 1: Panels are nailed with two 8d nails per stud. The one-course panel was nailed $1^{3}/_{4}$-inch from top and $3^{1}/_{4}$-inch from the bottom at 16 inches (406 mm) on center starting $^{1}/_{2}$ inch from butted end. Stud framing must be minimum nominal 2-by-4, Western Woods with a minimum specific gravity of 0.36, S-Dry, Stud Grade, spaced a maximum of 16 inches (406 mm) on center.

4.2.2 Single-Course Panels (Coastal Panels; various exposures) Installed on Wood Studs Spaced 16 Inches on Center, Maximum Allowable Wind Pressure and Wind Speed -Table 1: Panels are nailed with one 8d nail per stud. The single-course panel was nailed $1^{1}/_{2}$ inch from the top at 16 inches (406 mm) on center starting $^{1}/_{2}$ inch from butted end. Stud framing must be minimum nominal 2-by-4, Western Woods with a minimum specific gravity of 0.36, S-Dry, Stud Grade, spaced a maximum of 16 inches (406 mm) on center.

4.2.3 Single-Course Vent Panels (14 inch exposure) installed with a cedar spacer strip on Wood Studs Spaced 16 inches on Center, Maximum Allowable Wind Pressure and Wind Speed – Table 1: Each Vent Panel is installed with a $^{5}/_{16}$-inch-thick by ¾-inch-wide by $6^{1}/_{2}$-inch-long cedar spacing strip stapled to each panel course 8 inches on center as measured from left to right. The Vent Panels are nailed with one 8d nail per stud. The single-course panel was nailed $1^{1}/_{2}$ inch from the top at 16 inches (406 mm) on center starting $^{1}/_{2}$ inch from butted end. Stud framing must be minimum nominal 2-by-4, Western Woods with a minimum specific gravity of 0.36, S-Dry, Stud Grade, spaced a maximum of 16 inches (406 mm) on center.

5.0 CONDITIONS OF USE

Cedar Valley Shingle Siding and Mansard Panels products 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 The panels must not be used as a nailing base.

5.2 The panels may be installed on exterior walls of buildings of Type I, II, III and IV construction when installed in accordance with Section 1405.5 of the IBC.

5.3 The panels may be applied to the exterior of combustible, fire-resistance-rated walls with a horizontal separation of greater than 5 feet (1.5 m), when approved by the code official.

5.4 When panels are installed as mansards, they must not be installed on slopes less than 60 degrees from the horizontal. Water from the main roof must not flow over the mansard.

5.5 The products are manufactured by Cedar Valley Manufacturing, Inc. facility at Hollister, CA, under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Test reports of wind-driven rain in accordance with ASTM E331.

6.2 Test reports on transverse wind load resistance in accordance with ASTM E330.

6.3 Engineering calculations.

6.4 Installation details.

6.5 Quality documentation.

7.0 IDENTIFICATION

7.1 Each package of Cedar Valley Shingle Siding and Mansard Panels covered by this report must be labeled with the manufacturer's name (Cedar Valley Manufacturing, Inc.), the product name and the ICC-ES evaluation report number (ESR-1862).

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

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TABLE 1—ALLOWABLE PRESSURE AND WIND SPEED (MPH)
ASCE 7-05 3 SECOND GUST 2009 and 2006 IBC, ASCE 7-10 2012 IBC[1]

PANEL TYPE	FASTENERS AND FRAMING	ALLOWABLE PRESSURE (PSF)	END ZONE AREA[3] (SQ FT)	MAXIMUM WINDSPEED[1] (MPH) (3 Second Gust)		
				HEIGHT (FT)	EXP B	EXP C
Single-Course Mansard 14" Exposure Tapered Shingle Panels	Blind nailing; Painted M-167 Cedar "Split-Less" Wood Siding Anchor Down Nails; $1^3/_4$" from top and $3^1/_4$" from bottom. For framing refer to Footnote 2	***75***	20	15 20 25 30 40 50 60	184 184 184 184 177 171 167	167 162 159 155 151 147 145
Single-Course Mansard 14" Exposure Tapered Shingle Panels	Blind nailing; Painted M-167 Cedar "Split-Less" Wood Siding Anchor Down Nails; $1^3/_4$" from top and $3^1/_4$" from bottom. For framing refer to Footnote 2	***75***	10	15 20 25 30 40 50 60	178 178 178 178 171 165 162	162 157 154 150 146 143 140
Single-Course 5.3" Exposure (Mixed Grain/Vertical Grain), $^1/_2$" thick butt Coastal Panels	Blind nailing; 13 gauge, $1^3/_4$" long nails with $^3/_8$ inch heads nailed $1^1/_2$" down from top. For framing refer to Footnote 2	***80***	20	15 20 25 30 40 50 60	191 191 191 191 183 177 173	173 168 165 161 156 153 150
Single-Course 5.3" Exposure (Mixed Grain/Vertical Grain), $^1/_2$" thick butt Coastal Panels	Blind nailing; 13 gauge, $1^3/_4$" long nails with $^3/_8$-inch heads nailed $1^1/_2$" down from top. For framing refer to Footnote 2	***80***	10	15 20 25 30 40 50 60	185 185 185 185 177 172 167	167 163 159 156 151 148 145
Single-Course $7^1/_8$" Exposure, Vertical Grain, $^5/_{16}$" thick butt shingle Coastal Panels	Blind nailing; 13 gauge, $1^3/_4$" long nails with $^3/_8$-inch heads nailed $1^1/_2$" down from top. For framing refer to Footnote 2	***65***	20	15 20 25 30 40 50 60	171 171 171 171 164 159 155	155 151 148 144 140 137 135
Single-Course $7^1/_8$" Exposure, Vertical Grain, $^5/_{16}$" thick butt shingle Coastal Panels	Blind nailing; 13 gauge, $1^3/_4$" long nails with $^3/_8$-inch heads nailed $1^1/_2$" down from top. For framing refer to Footnote 2	***65***	10	15 20 25 30 40 50 60	165 165 165 165 159 154 150	150 146 143 140 136 133 130
Single-Course $7^1/_8$" exposure, Vertical Grain, $^5/_{16}$" thick butt shingle Vent Panels	Blind nailing; 13 gauge, $2^1/_2$" long nails with $^3/_8$-inch heads nailed $1^1/_2$" down from top. For framing refer to Footnote 2	***85***	20	15 20 25 30 40 50 60	192 192 192 192 184 179 174	174 169 166 162 158 154 151
Single-Course $7^1/_8$" exposure, Vertical Grain, $^5/_{16}$" thick butt shingle Vent Panels	Blind nailing; 13 gauge, $2^1/_2$" long nails with $^3/_8$-inch heads nailed $1^1/_2$" down from top. For framing refer to Footnote 2	***85***	10	15 20 25 30 40 50 60	186 186 186 186 178 173 169	169 164 160 157 153 149 146

For **SI:** 1 inch = 25.4 mm, 1 foot = 0.3 m, 1 square foot = 0.09m^2, 1 pound per square foot (psf) = 48 Pa, 1 mile per hour (MPH) = 1.6 kilometers per hour.

[1]Table 1 is based on ASCE 7-05 using three second gust wind velocities for nominal design wind speed, v_{asd}; to convert to ultimate design wind speeds, v_{ult}, use Table 1609.3.1 of the 2012 IBC.

[2]2 by 4 Doug. Fir-L, S-Dry Stud Grade spaced 16 inches on center.

[3]End zone area is determined using the ASCE 7 and the components and cladding external pressure coefficient figures.