



*Most Widely Accepted and Trusted*

# ICC-ES Evaluation Report

ICC-ES | (800) 423-6587 | (562) 699-0543 | [www.icc-es.org](http://www.icc-es.org)

## ESR-2386

Reissued 04/2018

This report is subject to renewal 04/2020.

**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**

**SECTION: 07 46 00—SIDING**

**REPORT HOLDER:**

**SHAKERTOWN 1992, INC.**

**POST OFFICE BOX 400  
1200 KERRON STREET  
WINLOCK, WASHINGTON 98596**

**EVALUATION SUBJECT:**

**SHAKERTOWN CEDAR SIDING: CRAFTSMAN, TAHOE AND CEDAR COVE**



*"2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence"*



*ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.*



# ICC-ES Evaluation Report



**ESR-2386**

Reissued April 2018

This report is subject to renewal April 2020.

[www.icc-es.org](http://www.icc-es.org) | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**

**Section: 07 46 00—Siding**

**REPORT HOLDER:**

**SHAKERTOWN 1992, INC.**  
POST OFFICE BOX 400  
1200 KERRON STREET  
WINLOCK, WASHINGTON 98596  
(360) 785-3501  
[www.shakertown.com](http://www.shakertown.com)

**EVALUATION SUBJECT:**

**SHAKERTOWN CEDAR SIDING: CRAFTSMAN, TAHOE AND CEDAR COVE**

## 1.0 EVALUATION SCOPE

**Compliance with the following codes:**

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

**Properties evaluated:**

- Durability
- Exterior veneer
- Wind resistance
- Fire-resistance-rated construction

## 2.0 USES

Shakertown Cedar Siding panels are exterior wall coverings for use in Type V (IBC) construction, and structures constructed under the IRC.

## 3.0 DESCRIPTION

### 3.1 General:

Shakertown cedar siding panels are exterior wall coverings consisting of Western red cedar boards adhered to a three-ply, C-C exterior grade (or better) plywood backing.

**3.1.1 Craftsman Panels:** The panels consist of red cedar boards 5<sup>1</sup>/<sub>2</sub>, 8<sup>1</sup>/<sub>4</sub> or 16<sup>1</sup>/<sub>2</sub> inches (140, 210, or 419 mm) long by 3 inches (76 mm) to 14 inches (356 mm) wide with a tapered thickness of <sup>1</sup>/<sub>8</sub> to <sup>3</sup>/<sub>8</sub> inch (3.2 to 9.5 mm), placed side by side and adhered to plywood backing that is 4<sup>1</sup>/<sub>2</sub>, 7, or 14 inches (114, 178, or 356 mm) wide by <sup>5</sup>/<sub>16</sub> inch (7.9 mm) thick by 8 feet (2.4 m) long. The plywood backing

is located flush to the top edge of the red cedar boards to act as a self-aligning guide for the corresponding 1-inch (25.4 mm), 1<sup>1</sup>/<sub>4</sub>-inch (31.7 mm) and 2<sup>1</sup>/<sub>2</sub>-inch (63.5 mm) overlap. The panels have 4<sup>1</sup>/<sub>2</sub>-, 7- or 14-inch (114, 178, or 356 mm) exposures.

Craftsman panels are available with or without keyways or vertical spacing between the cedar face material. Panels with keyways have a <sup>5</sup>/<sub>32</sub>-inch-wide-by-<sup>1</sup>/<sub>8</sub>-inch-deep (4 mm by 3.2 mm) keyway cut between each cedar board and have a minimum overall siding thickness of <sup>3</sup>/<sub>8</sub> inch (9.5 mm) at the thinnest point of the keyway.

Panels are available in either even-butt or staggered-butt styles.

**3.1.2 Tahoe Panels:** The Tahoe panels consist of red cedar board 8<sup>1</sup>/<sub>4</sub> inches (210 mm) long 3 inches (76 mm) to 14 inches (356 mm) wide with a tapered thickness of <sup>1</sup>/<sub>8</sub> inch to <sup>1</sup>/<sub>2</sub> inch (3.19 to 13 mm), placed side by side and adhered to plywood backing that is 7 inches (178 mm) wide by <sup>5</sup>/<sub>16</sub>-inch (7.9 mm) thick by 8 feet (2.4 m) long. The plywood backing is located flush to the top edge of the red cedar boards to act as a self-aligning guide for the corresponding 1<sup>1</sup>/<sub>4</sub>-inch (31.7 mm) overlap. The panels have a 7-inch (152 mm) exposure.

**3.1.3 Cedar Cove Panels:** The panels consist of a red cedar board 6 inches (152 mm) by 3 inches (76 mm) to 14 inches (356 mm) wide with a tapered thickness of <sup>1</sup>/<sub>8</sub> to <sup>3</sup>/<sub>8</sub> inches (3.19 to 9.5 mm), placed side by side and adhered to plywood backing that is 5 inches (127 mm) wide by <sup>3</sup>/<sub>8</sub>-inch (7.9 mm) thick by 8 feet (2.4 m) long. The plywood backing is located flush to the top edge of the red cedar boards to act as a self-aligning guide for the corresponding 1<sup>1</sup>/<sub>4</sub>-inch (31.7 mm) overlap. The panels have a 5-inch (127 mm) exposure.

## 3.2 Materials:

**3.2.1 Cedar Boards:** Craftsman and Tahoe panels consist of clear vertical grain red cedar boards. Cedar Cove panels consist of mixed grain red cedar boards.

**3.2.2 Plywood:** Plywood is nominally <sup>5</sup>/<sub>16</sub>-inch-thick (7.9 mm), exterior grade, touch-sanded (on both sides), C-C Douglas fir plywood of the specified widths bonded with exterior-type glue and complying with U.S. DOC PS-1. The plywood face plies are parallel to the long dimension of the panel.

**3.2.3 Adhesive:** The adhesive used to bond shingles or cedar boards to plywood backing is an exterior-type adhesive providing a glue line that meets U.S. DOC PS-1-09 test requirements for exterior-type plywood.

## 4.0 INSTALLATION

### 4.1 General:

The panels are installed over spaced or solid sheathing complying with the applicable code, or over studs without sheathing. The panels are limited to use on exterior walls. A water-resistive barrier complying with IBC Section 1404.2 or IRC Section 703.2 is required. Each panel course is attached with corrosion-resistant nails described in Tables 1, 2 and 3 of this report. Nails must be of sufficient length to penetrate the framing a minimum of 1.5 inches (38.1 mm). The first course of panels is installed over a level  $\frac{1}{2}$ -inch-thick-by-1-inch-wide (12.7 mm by 25.4 mm) wood starter strip. Subsequent courses are installed by fitting the recessed self-aligning edge over the top of the previous panel. For face-nailing, the nails are placed at distances of 3, 4, and 7 inches (76, 102, and 178 mm) from the bottom edge of the panel for, respectively, the  $4\frac{1}{2}$ -, 7- and 14-inch (114, 178 or 356 mm) Craftsman panels and 3 and 4 inches (76 and 102 mm) from the bottom edge of the Cedar Cove and Tahoe panels. The nails are fastened through the end of each panel into the stud at end joints and to each intermediate stud.

Craftsman  $4\frac{1}{2}$ - and 7-inch (114 and 178 mm), Tahoe and Cedar Cove panels may alternately be attached using concealed nailing. The nails are fastened along the top of each course no less than  $\frac{3}{4}$  inch (19.1 mm) down from the top edge for Craftsman  $4\frac{1}{2}$ -inch (114 mm) and Cedar Cove panels and 1 inch (25.4 mm) down from the top edge for Craftsman 7-inch (178 mm) and Tahoe panels. The lap of the next higher course conceals the nails on the lower course. The nails are fastened through the end of each panel into the stud at end joints and to each intermediate stud. Panels are installed with the panel-end joints butted together, allowing  $\frac{1}{16}$  inch (1.6 mm) of space between end joints.

Vertical panel joints must be staggered to avoid direct alignment with panel joints of adjacent courses. Roof drainage is not permitted over mansard panels.

### 4.2 Wind Resistance:

Wind resistance is as noted in Tables 1, 2 and 3 of this report. As an alternative, when installed as described in Section 4.1 of this report with corrosion-resistant threaded nails having a minimum 0.200-inch-diameter (5.1 mm) head, a 0.100-inch-diameter (25.4 mm) shank and a length sufficient to penetrate framing a minimum of 1.5 inches (38 mm), the siding panels have a minimum positive or negative wind resistance of 20.6 psf (986 Pa).

### 4.3 One-hour Fire-resistance-rated Wall Assembly:

The siding panels may be used as an alternate to the wall covering required for the one-hour fire-resistance-rated

wall assembly specified in 2015 and 2012 Item 15-1.1 of Table 721.1(2) [2006 and 2009 IBC Item 15-1.1 of Table 720.1(2)] provided the thickness of wood at the thinnest point of the panel assembly is a minimum of  $\frac{3}{8}$  inch (9.5 mm). The siding panels must be installed in accordance with Section 4.1 of this report.

## 5.0 CONDITIONS OF USE

The Shakertown cedar siding 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 The products must be installed as set forth in this report and the manufacturer's instructions. If there is a conflict between this report and the manufacturer's instructions, this report governs.
- 5.2 Walls must be braced in accordance with the applicable code to resist shear forces acting parallel to the wall.
- 5.3 All windows, doors and other exterior openings must be flashed in accordance with the applicable code.
- 5.4 The siding panels must be installed over a water-resistive barrier complying with the applicable code.
- 5.5 Fire-resistance-rated construction must be in accordance with Section 4.3.
- 5.6 The products are manufactured at the Shakertown 1992, Inc., facility in Winlock, Washington, under a quality control program with inspections by ICC-ES.

## 6.0 EVIDENCE SUBMITTED

- 6.1 Reports of wind-driven rain tests in accordance with ASTM E331.
- 6.2 Reports of transverse load tests in accordance with ASTM E72.
- 6.3 Reports of nail withdrawal and nail-head pull-through tests in accordance with ASTM D1037.
- 6.4 Reports of fire-resistance tests in accordance with ASTM E119.
- 6.5 Engineering calculations for allowable wind loads.
- 6.6 Quality documentation.

## 7.0 IDENTIFICATION

Each bundle of panels is labeled with the manufacturer's name (Shakertown 1992, Inc.), the plant location, the product name, and the evaluation report number (ESR-2386).

**INSTRUCTIONS FOR USING TABLES 1, 2 AND 3 TO DETERMINE WIND NAILING REQUIREMENTS**

- Step 1. Utilizing applicable wind speed and coefficients according to the local codes, determine the DESIGN WIND PRESSURE.
- Step 2. From TABLE 1, verify ALLOWABLE PANEL WIND PRESSURE that equals or exceeds the DESIGN WIND PRESSURE determined from Step 1. Select NAIL LOAD AT ALLOWABLE PANEL WIND PRESSURE (far right column) corresponding to the ALLOWABLE PANEL WIND PRESSURE).
- Step 3. Determine REDUCED NAIL LOAD = NAIL LOAD ALLOWABLE PANEL WIND PRESSURE × (DESIGN WIND PRESSURE / ALLOWABLE PANEL WIND PRESSURE).
- Step 4. From TABLE 2, select a nail or nails providing a NAIL WITHDRAWAL RESISTANCE equaling or exceeding the required REDUCED NAIL LOAD determined from Step 4, based on wood of the wall framing members..
- Step 5. From TABLE 3, check to ensure that the NAIL-HEAD PULL-THROUGH RESISTANCE equals or exceeds the REDUCED NAIL LOAD.

**TABLE 1—SHAKERTOWN CEDAR SIDING PANELS**

STYLE AND EXPOSURE	NAIL LOCATION <sup>2</sup>	MAXIMUM NAIL VERTICAL SPACING (inches)	ALLOWABLE PANEL WIND PRESSURE (psf)	NAIL LOAD AT ALLOWABLE PANEL WIND PRESSURE <sup>1</sup> (lbf)
<b>Stud @ 16 inches on center</b>				
Craftsman 4 <sup>1</sup> / <sub>2</sub>	Face or concealed	4.5	67	34
Cedar Cove 5	Face or concealed	4.5	67	34
Craftsman/Tahoe 7	Face	7	78	61
Craftsman/Tahoe 7	Concealed	7	59	46
Craftsman 14	Face	14	81	126
<b>Stud @ 24 inches on center</b>				
Craftsman 4 <sup>1</sup> / <sub>2</sub>	Face or concealed	4.5	78	59
Cedar Cove 5	Face or concealed	4.5	78	59
Craftsman/Tahoe 7	Face or concealed	7	78	91
Craftsman 14	Face	14	81	189

For **SI**: 1 inch = 25.4 mm, 1 psf = 0.0479 kPa.

<sup>1</sup>Allowable withdrawal loads are dependent upon fasteners designed in accordance with recognized codes.

<sup>2</sup>Two or more nails may be designed for face nailed or combination face/concealed nailed configuration to satisfy nail loading provided nail spacing along stud is approximately equidistant.

**TABLE 2—ALLOWABLE NAIL WITHDRAWAL RESISTANCE (lbf)<sup>1,2,3</sup>**

WOOD	SPECIFIC GRAVITY	2 <sup>1</sup> / <sub>4</sub> -INCH 7D COMMON <sup>4</sup> MIN. DIA. = 0.104 in. (lbf)	3-INCH 10D COMMON MIN. DIA. = 0.147 in. (lbf)	3-INCH ROOFING <sup>5</sup> MIN. DIA. = 0.127 in. (lbf)
Spruce-pine-fir	0.42	38	77	66
Hem-fir	0.46	48	97	83
Douglas fir-larch	0.50	56	113	98
Southern pine	0.55	75	151	131

For **SI**: 1 inch = 25.4 mm, 1 lbf. = 4.45 N.

<sup>1</sup>Based on  $W = 1380 G^{5/2} D$ , where  $W$  = allowable load per inch of penetration in the member holding the nail point,  $G$  = Specific gravity,  $D$  = diameter of the nail in inches.

<sup>2</sup>Values assume a panel thickness of <sup>1</sup>/<sub>2</sub> inch. Where nonstructural or spaced sheathing is located under the siding, the length of the nail must be increased an equivalent length so as to provide required penetrations.

<sup>3</sup>Includes 1.33 load duration factor; no further increases are permitted.

<sup>4</sup>Typical, corrosion-resistant, manufacturer-supplied.

<sup>5</sup>Typical, corrosion-resistant.

**TABLE 3—NAIL HEAD PULL-THROUGH RESISTANCE (lbf per nail)<sup>1,2,3</sup>**

NAIL	RESISTANCE (lbf/nail)
7d, 2 <sup>1</sup> / <sub>4</sub> -inch common	30
10d, 3-inch common	57
3-inch roofing	69

<sup>1</sup>Nails located 1 inch from top edge of panel.

<sup>2</sup>7d common nail: 0.105-inch-diameter shank, 0.194-inch-diameter head, refer to ASTM F1667.

10d common nail: 0.148-inch-diameter shank, 0.315-inch-diameter head, refer to ASTM F1667.

Roofing nail: 0.128-inch-diameter shank, 0.410-inch-diameter head, refer to ASTM F1667.

<sup>3</sup>Nails must be corrosion-resistant.

## ICC-ES Evaluation Report

## ESR-2386 CBC and CRC Supplement

Reissued April 2018

This report is subject to renewal April 2020.

[www.icc-es.org](http://www.icc-es.org) | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 46 00—Siding

## REPORT HOLDER:

SHAKERTOWN 1992, INC.  
POST OFFICE BOX 400  
1200 KERRON STREET  
WINLOCK, WASHINGTON 98596  
(360) 785-3501  
[www.shakertown.com](http://www.shakertown.com)

## EVALUATION SUBJECT:

SHAKERTOWN CEDAR SIDING: CRAFTSMAN, TAHOE AND CEDAR COVE

## 1.0 REPORT PURPOSE AND SCOPE

## Purpose:

The purpose of this evaluation report supplement is to indicate that Shakertown Cedar Siding: Craftsman, Tahoe and Cedar Cove, recognized in ICC-ES master evaluation report ESR-2386, has also been evaluated for compliance with the codes noted below.

## Applicable code editions:

- 2016 *California Building Code* (CBC)
- 2016 *California Residential Code* (CRC)

## 2.0 CONCLUSIONS

## 2.1 CBC:

The Shakertown 1992, Inc. Shakertown Cedar Siding: Craftsman, Tahoe and Cedar Cove, described in the master report ESR-2386, comply with CBC Chapter 14, provided the design and installation are in accordance with the 2015 *International Building Code*® (IBC) provisions noted in the master report and the additional requirements of CBC Chapters 14, 17, 17A and 23, as applicable.

The cedar siding has not been evaluated under CBC Chapter 7A for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within a State Responsibility Areas or any Wildland-Urban Interface Fire Area.

## 2.2 CRC:

The Shakertown 1992, Inc. Shakertown Cedar Siding: Craftsman, Tahoe and Cedar Cove, described in the master report ESR-2386, comply with CRC Section R703.5, provided the design and installation are in accordance with the 2015 *International Residential Code*® (IRC) provisions noted in the master report and the applicable provisions of the CRC.

The cedar siding has not been evaluated under CRC Section R337 for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within a State Responsibility Areas or any Wildland-Urban Interface Fire Area.

The products recognized in this supplement have not been evaluated for compliance with the *International Wildland-Urban Interface Code*®.

This supplement expires concurrently with the master report, reissued April 2018.

## ICC-ES Evaluation Report

## ESR-2386 FBC Supplement

Reissued April 2018

This report is subject to renewal April 2020.

[www.icc-es.org](http://www.icc-es.org) | (800) 423-6587 | (562) 699-0543 A Subsidiary of the International Code Council®

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 46 00—Siding

### REPORT HOLDER:

SHAKERTOWN 1992, INC.  
POST OFFICE BOX 400  
1200 KERRON STREET  
WINLOCK, WASHINGTON 98596  
(360) 785-3501  
[www.shakertown.com](http://www.shakertown.com)

### EVALUATION SUBJECT:

SHAKERTOWN CEDAR SIDING: CRAFTSMAN, TAHOE AND CEDAR COVE

### 1.0 REPORT PURPOSE AND SCOPE

#### Purpose:

The purpose of this evaluation report supplement is to indicate that Shakertown Cedar Siding, recognized in ICC-ES master evaluation report ESR-2386, has also been evaluated for compliance with the codes noted below.

#### Applicable code editions:

- 2014 *Florida Building Code—Building*®
- 2014 *Florida Building Code—Residential*®

### 2.0 CONCLUSIONS

The Shakertown Cedar Siding, described in Sections 2.0 through 7.0 of the master evaluation report ESR-2386, complies with the *Florida Building Code—Building* and the *Florida Building Code—Residential*, provided the design and installation are in accordance with the 2012 *International Building Code*® (IBC) provisions noted in the master report and the following conditions apply:

- Design wind loads must be based on Section 1609 of the *Florida Building Code—Building* or Section 301.2.1 of the *Florida Building Code—Residential*, as applicable.
- Installation must meet the requirements of Sections 1403.8 of the *Florida Building Code—Building* or Section R318.7 of the *Florida Building Code—Residential*, as applicable.

Use of the Shakertown Cedar Siding for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential* has not been evaluated, and is outside the scope of this supplemental report.

For products falling under Florida Rule 9N-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).

This supplement expires concurrently with the master report, reissued April 2018.