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# ICC-ES Report

## ESR-2867

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Reissued 01/2016  
This report is subject to renewal 01/2017.

**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**  
**SECTION: 07 31 29—WOOD SHINGLES AND SHAKES**

**REPORT HOLDER:**

**FSR TREATMENT, INC.**

**9486 288<sup>TH</sup> STREET**  
**MAPLE RIDGE, BRITISH COLUMBIA V2V 4J4**  
**CANADA**

**EVALUATION SUBJECT:**

**FIRE-RETARDANT-TREATED WOOD SHAKES AND SHINGLES**



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# ICC-ES Evaluation Report

**ESR-2867**

Reissued January 2016

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**DIVISION: 07 00 00—THERMAL AND MOISTURE  
PROTECTION**
**Section: 07 31 29—Wood Shingles and Shakes**
**REPORT HOLDER:**

**FSR TREATMENT, INC.**  
 9486 288<sup>th</sup> STREET  
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**EVALUATION SUBJECT:**
**FIRE-RETARDANT-TREATED WOOD SHAKES AND  
SHINGLES**
**1.0 EVALUATION SCOPE**
**Compliance with the following codes:**

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)
- Other Code (see Section 8.0)

**Properties evaluated:**

- Roof covering
- Fire classification

**2.0 USES**

The fire-retardant-treated wood shakes and shingles described in this report are wood roof covering materials for use where Class A, B or C or nonclassified roof covering material is permitted.

**3.0 DESCRIPTION**
**3.1 General:**

The fire-retardant-treated wood shakes and shingles, having a maximum moisture content of 20 percent, are pressure-treated by FSR Treatment, Inc., with a FSR Treatment, Inc. proprietary fire-retardant chemical. Treated shakes and shingles are labeled as “Class B” or “Class C.”

**3.2 Material:**

Fire-retardant-treated wood shakes are manufactured from No. 1 grade Western red cedar shakes complying with the grading rules specified in IBC Section 1507.9.5 and IRC Section R905.8.5, as applicable. Shake thickness is a minimum of 1/2 inch (12.7 mm). Fire-retardant-treated wood shingles are manufactured from No. 1 grade Western red cedar shingles complying with the grading rules specified

in IBC Section 1507.8.4 and IRC Section R905.7.4, as applicable. Fasteners must be stainless steel complying with ASTM A580 Type 304 or 316.

**4.0 INSTALLATION**
**4.1 Class B Roof Covering:**

Shakes and shingles labeled as “Class B” must be installed on minimum 15/32-inch-thick (11.9 mm) solid sheathing or spaced sheathing complying with the applicable code. Weather exposure of hips and ridges must not exceed those exposures permitted for the field of the roof. Starter courses at eaves must be doubled. Fifteen-inch (381 mm) or 18-inch (457 mm) shakes or shingles may be used for the starter and final course at the ridge. See Figure 1 for typical installation details.

**4.1.1 Shakes:** The shakes must be installed on roofs with a minimum slope of 4:12 (33%), in accordance with IBC Section 1507.9 or IRC Section R905.8, as applicable, except that one layer of ASTM D226 Type II underlayment must be installed over the eaves in addition to ASTM D226 Type II interlayment between courses. Flashing must comply with and be installed in accordance with IBC Section 1507.9.8 or IRC Sections R905.8.8 and R903.2, as applicable. Maximum weather exposure of the shakes must not exceed those exposures listed in IBC Table 1507.9.7 or IRC Table R905.8.6, as applicable.

**4.1.2 Shingles:** The shingles must be installed on roofs with a minimum slope of 3:12 (25%), in accordance with IBC Section 1507.8 or IRC Section R905.7, as applicable. Flashing must comply with and be installed in accordance with IBC Section 1507.8.7 or IRC Sections R905.7.6 and R903.2, as applicable. Maximum weather exposure of the shingles must not exceed those exposures listed in IBC Table 1507.8.6 or IRC Table R905.7.5, as applicable.

**4.2 Class C Roof Covering:**

Shakes and shingles labeled as “Class C” must be installed as noted in Section 4.1 for Class B roof covering.

**4.3 Class A Roof Covering:**

Shakes and shingles labeled as “Class B” may be used in a Class A roof covering provided the Class B shakes or shingles are installed as described for Class B roof covering in Section 4.2.1, and the sheathing is covered with one layer of mineral-surfaced cap sheet complying with ASTM D3909, and having a nominal weight of 76 pounds per square (3.71 kg/m<sup>2</sup>).

**4.4 Nonclassified Roof Covering:**

Where the code does not require a fire classification, the installation must be in accordance with IBC Section 1507.9

or IRC Section R905.8, as applicable, for wood shakes; or IBC Section 1507.8 or IRC Section R905.7, as applicable, for wood shingles.

## 5.0 CONDITIONS OF USE

The FSR Treatment, Inc., fire-retardant-treated wood shakes and shingles 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 shakes and shingles must be treated, identified and installed in accordance with this report.
- 5.2 The Class B and C shakes and shingles are limited to use on roofs where the respective classification is permitted, except that the Class B shakes and shingles are permitted to be used on roofs required to have a Class A roof covering where they are installed as part of the assembly described in Section 4.3.
- 5.3 The shakes and shingles are pressure-treated by FSR Treatment, Inc., in Maple Ridge, British Columbia, Canada, under a quality control program with inspections by ICC-ES and QAI Laboratories, Inc. (AA-723).

## 6.0 EVIDENCE SUBMITTED

- 6.1 Report of testing in accordance with the ICC-ES Acceptance Criteria for Classified Wood Roof Systems (AC107), dated September 2004 (editorially revised February 2014), including reports of weathering tests of Class B shakes and shingles over spaced and solid decks after one-, two-, three-, five- and ten-year exposure.
- 6.2 Results of audit of the treatment facility.
- 6.3 Quality documentation.
- 6.4 Installation instructions.

## 7.0 IDENTIFICATION

Bundles of treated wood shakes and shingles bear two labels. The first label notes the mill, the shake or shingle grading agency, and compliance with the grading standards noted in the applicable code. The second label bears the FSR Treatment, Inc., name and address; the product name; the name of the inspection agency (ICC-ES and QAI Laboratories, Inc.); the fire classification; and the evaluation report number (ESR-2867). Labels for Class B shakes and shingles are printed with red ink and labels for Class C shakes and shingles are printed with blue ink. See Figure 2 for treater labels.

## 8.0 OTHER CODES

### 8.1 Evaluation Scope:

The fire-retardant-treated wood shakes and shingles described in this report were also evaluated for compliance with the requirements of the 1997 *Uniform Building Code*<sup>™</sup> (UBC).

### 8.2 Uses:

See Section 2.0, except change the word “nonclassified” to “nonrated.”

### 8.3 Description:

See Section 3.0. The fire-retardant-treated wood shakes and shingles are manufactured from No. 1 grade Western red cedar shakes and shingles complying with the grading rules specified in UBC Standards 15-3 and 15-4, respectively.

### 8.4 Installation:

See Section 4.0, except for the following revisions:

- In Section 4.1: The shakes must be installed on roofs with a minimum slope of 4:12 (33%), in accordance with UBC Table 15-B-2, except that for shakes, one layer of ASTM D226 Type II underlayment must be installed over the eaves in addition to ASTM D226 Type II interlayment between courses. Valley flashing must comply with and be installed in accordance with UBC Section 1508.5, and other flashing must comply with UBC Section 1509. Maximum weather exposure of the shakes and shingles must not exceed those exposures listed in UBC Table 15-C.
- In Section 4.3.2: Where the code does not require a fire classification (nonrated roof covering is permitted), installation must be in accordance with UBC Table 15-B-2.

### 8.5 Conditions of Use:

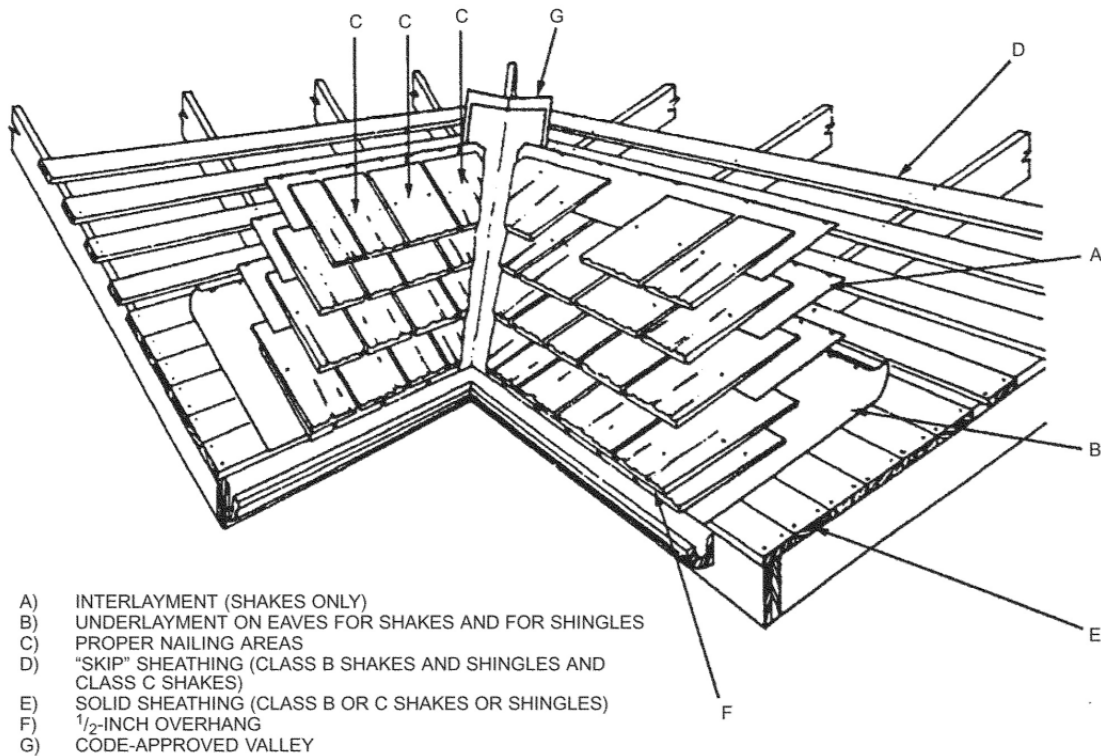
See Section 5.0.

### 8.6 Evidence Submitted:

See Section 6.0.

### 8.7 Identification:

See Section 7.0.



For SI: 1 inch = 25.4 mm.

FIGURE 1—TYPICAL INSTALLATION DETAILS



**FSR TREATMENT INC.**  
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**P 1-(804) 462-0640**  
 CSFM Listee: FSR Treatment Inc  
 Maple Ridge, BC V2W 1L1  
 CSFM Listing #4150-1735-100

**ICC ESR-2867**      **Class "B" Fire Retardant**



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**ICC ESR-2867**      **Class "C" Fire Retardant**



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**CLASS "C" FIRE RETARDANT**      **ICC ESR-2867**

FIGURE 2—TREATER LABELS