

# ICC-ES Evaluation Report


ESR-1410

Reissued June 2025

Subject to renewal June 2026

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<p><b>DIVISION: 07 00 00—</b> <b>THERMAL AND</b> <b>MOISTURE</b> <b>PROTECTION</b></p> <p><b>Section: 07 31 29—</b> <b>Wood Shingles and</b> <b>Shakes</b></p>	<p><b>REPORT HOLDER:</b>  <b>FSR TREATMENT, INC.</b></p> <p><b>ADDITIONAL LISTEE:</b>  <b>CHEMCO, INC</b></p>	<p><b>EVALUATION SUBJECT:</b>  <b>FSR, FTX, FIRE-RETARDANT-TREATED WOOD SHAKES AND SHINGLES</b></p>	
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## 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)<sup>†</sup>

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

- 1997 *Uniform Building Code™* (UBC)

**Properties evaluated:**

- Roof covering
- Fire classification

## 2.0 USES

The fire-retardant-treated wood shake and shingle roof coverings are for use where Class A, B or C wood roof coverings are permitted.

## 3.0 DESCRIPTION

The fire-retardant-treated wood shakes and shingles are produced from No. 1 grade western red cedar shakes complying with IBC Section 1507.9.6 (2012 and 2009 codes and 1507.9.5 (2006 code), IRC Section R905.8.5 or UBC Section 1507.12, or No. 1 western red cedar shingles complying with IBC Section 1507.8.5 (2012 and 2009 codes) and 1507.8.4 (2006 code), IRC Section R905.7.4 or UBC Section 1507.13. The shakes and shingles, having a maximum moisture content of 25 percent, are pressure-treated by FSR Treatment, Inc. or Chemco, Inc., with proprietary fire-retardant chemicals. Treated products are identified as “Class B” or “Class C.” The “Class B” treated shakes and shingles have higher levels of chemical retention than the “Class C” treated shakes and shingles. Fire-retardant-treated starter course materials are supplied by FSR Treatment, Inc. or Chemco, Inc. and are produced from No. 2 grade taper sawn shakes or No. 2 grade shingles complying with the previously referenced code sections, and are also available in “Class B” and “Class C.” Products are sold under the trade names FSR FTX.

## 4.0 DESIGN AND INSTALLATION

### 4.1 General:

The wood shakes and shingles must be installed on spaced or solid sheathing complying with the applicable code. The wood shakes must be installed in accordance with IBC Section 1507.9, IRC Section R905.8 or UBC

Section 1507.12. The wood shingles must be installed in accordance with IBC Section 1507.8, IRC Section 905.7 or UBC Section 1507.13. Fasteners must be stainless steel complying with ASTM A580 Type 304 or 316. The wood shakes must be installed on roofs with a minimum slope of 4:12 (33%), while wood shingles may be installed on roofs with a minimum slope of 3:12 (25%).

Weather exposure of the hip and ridge shakes or shingles must not exceed those exposures permitted for the field of the roof.

Starter courses at the eave must be doubled, with the first course being full-size treated shakes or shingles or 15-inch (381 mm) treated starter-course shakes or shingles. Fifteen-inch (381 mm) or 18-inch (457 mm) treated shakes or shingles may be used for the final course at the ridge.

#### **4.2 Class A Roof Covering:**

Products labeled as “Class B” shakes or shingles must be installed in accordance with Section 4.1 of this report, over spaced or solid sheathing covered either with one layer of 1/4-inch-thick (6.4 mm) Dens-Deck® Roof Board, manufactured by Georgia Pacific Corporation, or with one layer of mineral-surfaced cap sheet complying with ASTM D3909. Where underlayment is required, the underlayment shall be installed over the Dens-Deck® board or mineral-surfaced cap sheet. Fastener length for the shakes or shingles must be increased for the thickness of the Dens-Deck board or cap sheet. The Dens-Deck boards must be fastened to spaced or solid sheathing using a minimum of four fasteners per board to avoid panel shifting prior to installation of the shakes or shingles. The mineral-surfaced cap sheet must be installed with 2-inch (51 mm) overlaps on the sides and ends, and attached with a sufficient number of fasteners to hold the sheet in place prior to installation of the shakes.

#### **4.3 Class B Roof Covering:**

Products labeled as “Class B” shakes or shingles must be installed in accordance with Section 4.1 of this report, except that for shake installation a 36-inch-wide (914 mm), Type II underlayment, complying with ASTM D226, must be installed under the 15- or 18-inch-long (381 or 457 mm) starter course at the eave line.

#### **4.4 Class C Roof Covering:**

Products labeled as “Class C” shakes or shingles must be installed as described in Section 4.3 of this report for the Class B roof covering.

### **5.0 CONDITIONS OF USE:**

The FSR Treatment, Inc., FTX fire-retardant-treated 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 are treated, identified and installed in accordance with this report.
- 5.2** The use of the Class B and C shakes and shingles is 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 4.2 of this report.
- 5.3** The shakes and shingles are pressure-treated by FSR Treatment, Inc., in Maple Ridge, British Columbia, Canada; and Chemco, Inc. in Ferndale, Washington under a quality control program with inspections by ICC-ES and Fire Tech Services, Inc. (AA-641).

### **6.0 EVIDENCE SUBMITTED**

- 6.1** Data in accordance with the [ICC-ES Acceptance Criteria for Classified Wood Roof Systems \(AC107\)](#), dated September 2004 (editorially revised February 2014).
- 6.2** Treater's published installation instructions.
- 6.3** A quality control manual.

### **7.0 IDENTIFICATION**

- 7.1** Bundles of treated wood shakes and shingles must bear a label noting the shingle or shake grading agency name and compliance with the grading standards noted in the applicable code. An additional label, affixed to each bundle, must bear the treater's name (FSR Treatment, Inc. or Chemco, Inc.), the product name, the name of the inspection agency (ICC-ES and Fire Tech Services, Inc.), the fire classification and the evaluation report number (ESR-1410). Labels for “Class B” shakes must be printed with red ink and labels for “Class C” shakes must be printed with blue ink. See [Figure 1](#) and [2](#) of this report for product treatment labels.

Starter-course shingles and shakes must be identified with a label bearing the treater's name (FSR Treatment, Inc. or Chemco, Inc.), the product name (Starter-Course), the name of the inspection agency (ICC-ES and Fire Tech Services, Inc.), the fire classification, the evaluation report number (ESR-1410) and the words "To be used as starter course only." Labels for "Class B" starter course materials must be printed with red ink and labels for "Class C" starter course materials must be printed with blue ink.

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

**FSR TREATMENT, INC.**  
**9486 – 288<sup>TH</sup> STREET**  
**MAPLE RIDGE, BRITISH COLUMBIA V2W 1L1**  
**CANADA**  
**(604) 462-0640**  
[www.firesmartroofing.com](http://www.firesmartroofing.com)

7.3 The Additional Listee's contact information is the following:

**CHEMCO, INC.**  
**POST OFFICE BOX 875**  
**FERNDALE, WASHINGTON 98248**  
**(360) 366-3500**  
[www.chemco.us](http://www.chemco.us)



FIGURE 1—PRODUCT TREATMENT LABELS



**FSR TREATMENT INC.**  
Treated by: Chemco Inc. 4191 Grandview Rd., Ferndale, WA 98248  
P 1-604-462-0640  
Fire rated roofing per UL 790, ULC-S-107-M, UBC-15-2  
ASTM-E-108, ICC ESR-1410, NFPA 256 when applied in  
accordance with installation instructions issued with this roofing.  
Legal for use in California **ICC Class "C" Fire Retardant**



**CLASS "C" Fire Retardant**  
Passed the 10 year weathering test (Report no. FTT 21060-3). Health and Safety Code 13132(j) and ICC ES EG 107. Listed with the California State Fire Marshal # 04150-1735:101 FSR Treatment Inc. ICC ESR-1410.  
**ISSUE #**  
Fire Tech Services Inc.  
Q.C. Inspection Agency  
AA-641 Listing no. 501B

Front and Reverse  
FSR Treatment Class C




**Class C Fire Retardant**  
**ICC ESR - 1410**  
FIRE TECH SERVICES INC. ISSAQUAH, WA  
Q.C. INSPECTION AGENCY  
AA-641 LISTING NO. 501B  
Treated by: CHEMCO INC.  
4191 Grandview Rd., Ferndale, WA, 98248  
Ph# 1-604-462-0640  
ISSUE #  
MUST BE APPLIED IN ACCORDANCE  
WITH APPLICATION INSTRUCTIONS  
INCLUDED WITH THIS ROOFING

**LEGAL FOR SALE AND USE IN CALIFORNIA**  
Complies with weathering requirements of State of California  
Health and Safety Code 13132.7(j) and ICC ES EG 107  
Passed the 10 year natural weather test (Report no. FTT 21060-3)  
Listed with California State Fire Marshal.  
(Listing no. 04150-1735:101)  
**Check with Local Building Official for any additional requirements or restrictions**

Front and Reverse  
FTX Class C



**FSR TREATMENT INC.**  
Treated by: Chemco Inc. 4191 Grandview Rd., Ferndale, WA 98248  
P 1-604-462-0640  
Fire rated roofing per UL 790, ULC-S-107-M, UBC-15-2  
ASTM-E-108, ICC ESR-1410, NFPA 256 when applied in  
accordance with installation instructions issued with this roofing.  
Legal for use in California **ICC Class "B" Fire Retardant**



**CLASS "B" Fire Retardant**  
Passed the 10 year weathering test (Report no. FTT 21060-3). Health and Safety Code 13132(j) and ICC ES EG 107. Listed with the California State Fire Marshal # 04150-1735:101 FSR Treatment Inc. ICC ESR-1410.  
**ISSUE #**  
Fire Tech Services Inc.  
Q.C. Inspection Agency  
AA-641 Listing no. 501B

Front and Reverse  
FSR Treatment Class B



**Class B Fire Retardant**  
**ICC ESR - 1410**  
FIRE TECH SERVICES INC. ISSAQUAH, WA  
Q.C. INSPECTION AGENCY  
AA-641 LISTING NO. 501B  
Treated by: CHEMCO INC.  
4191 Grandview Rd., Ferndale, WA, 98248  
Ph# 1-604-462-0640  
ISSUE #  
MUST BE APPLIED IN ACCORDANCE  
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**Check with Local Building Official for any additional requirements or restrictions**

Front and Reverse  
FTX Class B

FIGURE 2—PRODUCT TREATMENT LABELS FOR CHEMCO, INC.