



ICBO Evaluation Service, Inc.

5360 WORKMAN MILL ROAD • WHITTIER, CALIFORNIA 90601-2299

A subsidiary corporation of the International Conference of Building Officials

EVALUATION REPORT

Copyright © 1999 ICBO Evaluation Service, Inc.

ER-5404

Reissued December 1, 1999

Filing Category: ROOF COVERING AND ROOF DECK CONSTRUCTION (202)

PRESSURE-TREATED WOOD SHAKES AND SHINGLES

CHEMCO, INC.
POST OFFICE BOX 875
FERNDALE, WASHINGTON 98248

1.0 SUBJECT

FTX, CEDARPLUS, Durashake®, FST and Chemco Pressure-treated Wood Shakes and Shingles.

2.0 DESCRIPTION

2.1 General:

The pressure-treated wood shakes and shingles are produced from No. 1 grade western red cedar shakes or shingles complying with UBC Standards 15-3 or 15-4. The shakes and shingles, having a maximum moisture content of 25 percent, are pressure-treated by Chemco, Inc., with a proprietary fire-retardant chemical. Treated products are identified as "Class B" and "Class C". The "Class B" treated shakes and shingles have higher levels of chemical retention than the "Class C" shakes and shingles. Products are sold under the trade names FTX, CEDARPLUS, Durashake, FST and Chemco.

2.2 Installation:

2.2.1 General: The wood shakes and shingles are installed on spaced or solid sheathing complying with the code. The shakes and shingles are installed in accordance with Table 15-B-2 of the code except as noted in this report. On roof slopes from 3:12 (25% slope) to less than 4:12 (33.33% slope), installation requires one layer of Type 15 asphalt-saturated felt. In addition to the interlayerment between courses, shakes are installed with an underlayment of 36-inch-wide (914 mm), Type 30 asphalt-saturated felt under the 15- or 18-inch-long (381 or 457 mm) starter course at the eave line. Valley flashing must comply with Section 1508.5 of the UBC, and other flashing must comply with Section 1509. Maximum weather exposure of the shakes and shingles must not exceed those exposures in Table 15-C of the UBC. Weather exposure of hips and ridges must not exceed those exposures permitted for the field of the roof. Starter courses at the eave are doubled. Fifteen-inch (381 mm) or 18-inch (457 mm) shakes or shingles may be used for the final course at the ridge. See Figure 1 for typical installation details.

2.2.2 Class A Roof Covering: Products labeled as "Class B" shakes or shingles are installed in accordance with Section 2.2.1 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 72-pound mineral-surfaced cap sheet. Fastener length must be increased for the thickness of

the Dens-Deck board or cap sheet. The Dens-Deck boards are 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 is installed with 2-inch (51 mm) overlaps on sides and ends, and attached with a sufficient number of fasteners to hold the sheet in place prior to installation of the shakes or shingles.

2.2.3 Class B Roof Covering: Products labeled as "Class B" shakes or shingles are installed in accordance with Section 2.2.1 of this report.

2.2.4 Class C Roof Covering: Products labeled as "Class C" shakes or shingles are installed in accordance with Section 2.2.1 of this report.

2.3 Identification:

Bundles of treated wood shakes and shingles bear a label noting the shingle or shake grading agency and compliance with UBC Standard 15-3 or 15-4. An additional label is affixed to each bundle, and bears the treater's name (Chemco, Inc.), the product name, the name of the quality control agency (Fire Tech Services, Inc.), the fire classification and the evaluation report number (ICBO ES ER-5404). Labels for "Class B" shakes are printed with red ink and labels for "Class C" shakes are printed with blue ink. See Figure 2 for product labels.

Dens Deck Roof Board and mineral-surfaced fiberglass cap sheet must bear the label of a quality control agency accredited by ICBO ES.

3.0 EVIDENCE SUBMITTED

Reports of tests in accordance with the ICBO ES Acceptance Criteria for Fire-retardant-treated Wood Roof Systems (AC107), dated September 1997, quality control manual and installation instructions.

4.0 FINDINGS

That the pressure-treated wood shakes and shingles described in this report comply with the 1997 Uniform Building Code™, subject to the following conditions:

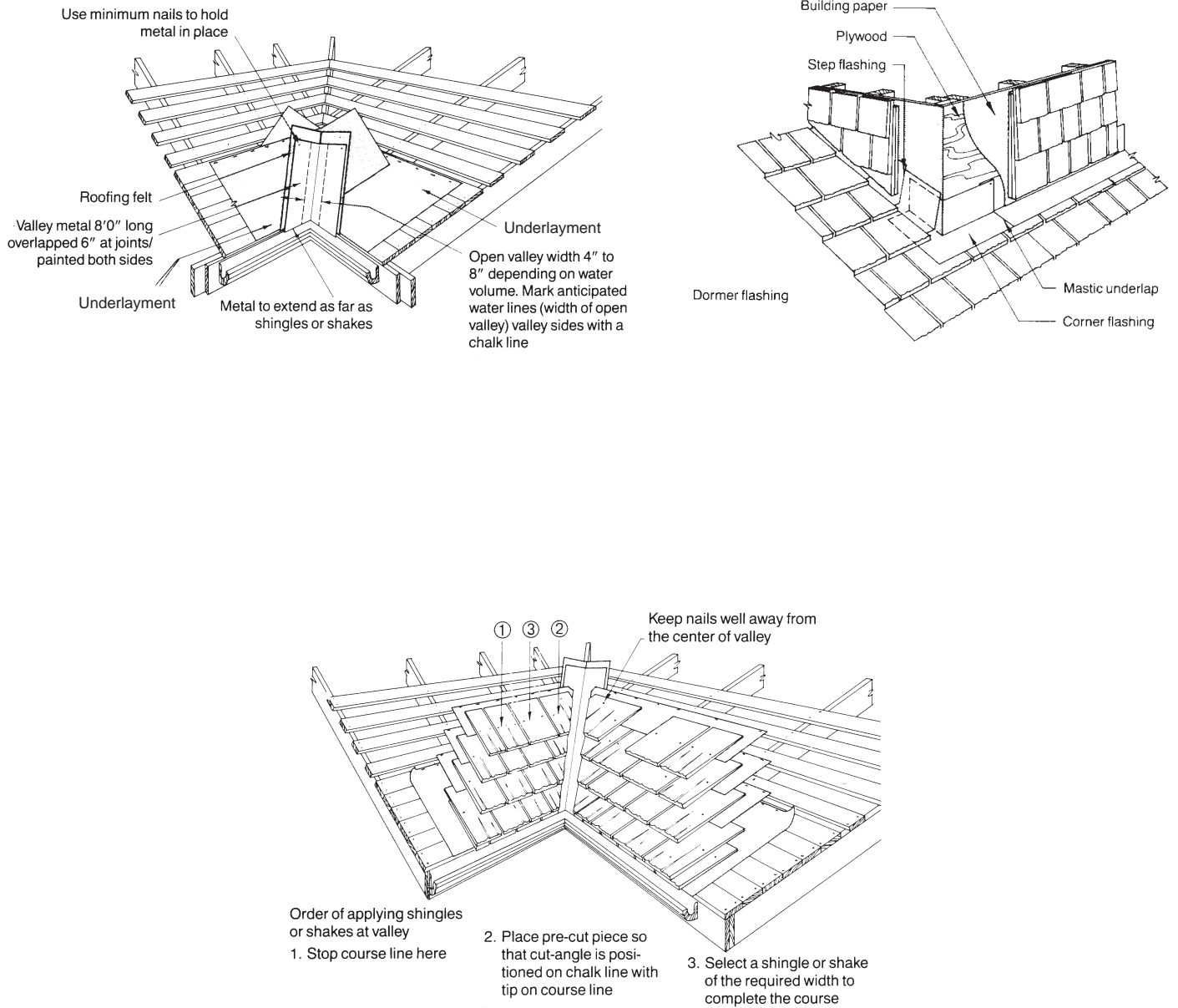
4.1 The shakes and shingles are treated, identified and installed in accordance with this report.

4.2 The shakes and shingles are pressure-treated by Chemco, Inc., in Ferndale, Washington, under a quality control program with inspections by Fire Tech Services, Inc. (AA-641).

This report is subject to re-examination in two years.

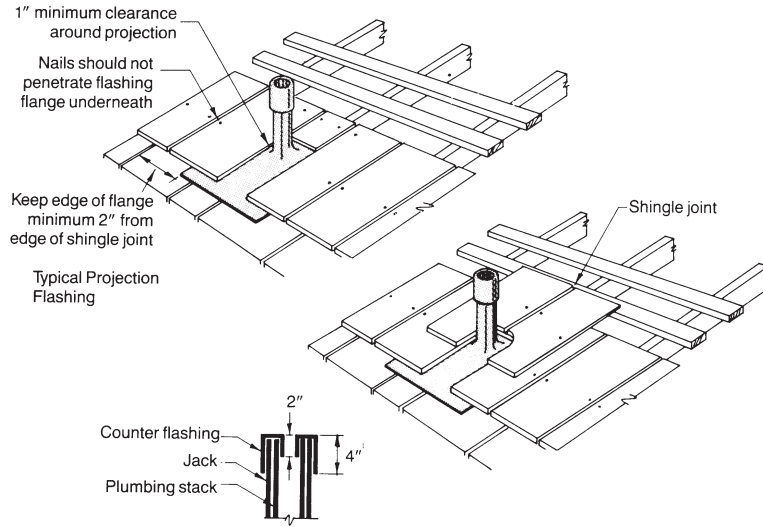
Evaluation reports of ICBO Evaluation Service, Inc., are issued solely to provide information to Class A members of ICBO, utilizing the code upon which the report is based. Evaluation reports are not to be construed as representing aesthetics or any other attributes not specifically addressed nor as an endorsement or recommendation for use of the subject report.

This report is based upon independent tests or other technical data submitted by the applicant. The ICBO Evaluation Service, Inc., technical staff has reviewed the test results and/or other data, but does not possess test facilities to make an independent verification. There is no warranty by ICBO Evaluation Service, Inc., express or implied, as to any "Finding" or other matter in the report or as to any product covered by the report. This disclaimer includes, but is not limited to, merchantability.

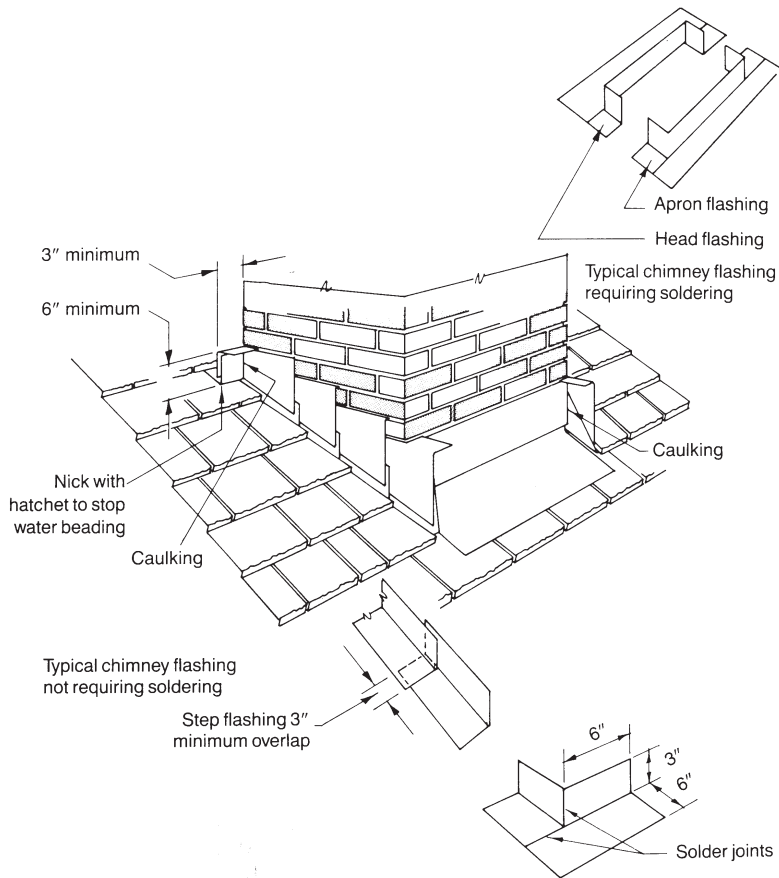


Flashing Details For Shingle and Shake Valleys

FIGURE 1—TYPICAL INSTALLATION DETAILS



Flashing Details for Typical Roof Projections



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

FIGURE 1—TYPICAL INSTALLATION DETAILS—(Continued)



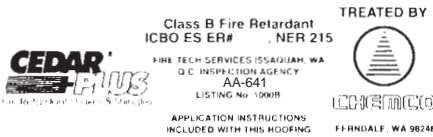
Class B Fire Retardant
N.E.R. NO. 215, ICBO ES ER 5404
Q.A. by FIRE TECH SERVICES, INC.
REPORT NO. AA-641
LISTING NO. 3500A

Must be applied in accordance with application instructions included with this roofing.



Class C Fire Retardant
N.E.R. NO. 215, ICBO ES ER 5404
Q.A. by FIRE TECH SERVICES, INC.
REPORT NO. AA-641
LISTING NO. 3500A

Must be applied in accordance with application instructions included with this roofing.



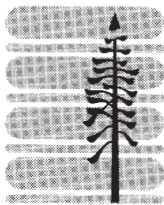
DURASHAKE® FT
Fire Retardant Treated Shakes & Shingles
Class C Fire Retardant - ICBO ES ER# , NER 215
FIRE TECH SERVICES ISSAQUAH, WA

TREATED BY
DURASHAKE IS A REGISTERED TRADEMARK OF AMERICAN WOOD PRESERVERS, INC. MISSION, BRITISH COLUMBIA V2V 4M4

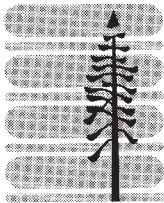


DURASHAKE® FT
Fire Retardant Treated Shakes & Shingles
Class B Fire Retardant - ICBO ES ER# , NER 215
FIRE TECH SERVICES ISSAQUAH, WA

TREATED BY
DURASHAKE IS A REGISTERED TRADEMARK OF AMERICAN WOOD PRESERVERS, INC. MISSION, BRITISH COLUMBIA V2V 4M4



FST CLASS B FIRE RETARDANT SHAKES & SHINGLES
Treated by CHEMCO INC. FERNDAL WA 98248
EVALUATION REPORT NUMBERS NER-215, ER-5404
Q.A. by FIRE TECH SERVICES INC. REPORT NO. AA-641
LISTING NO. 3000A Must be applied in accordance with application instructions included with this roofing.



FST CLASS C FIRE RETARDANT SHAKES & SHINGLES
Treated by CHEMCO INC. FERNDAL WA 98248
EVALUATION REPORT NUMBERS NER-215, ER-5404
Q.A. by FIRE TECH SERVICES INC. REPORT NO. AA-641
LISTING NO. 3000A Must be applied in accordance with application instructions included with this roofing.

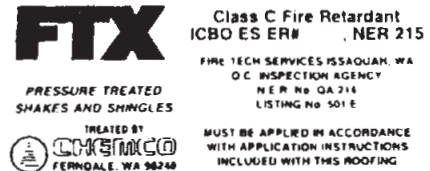
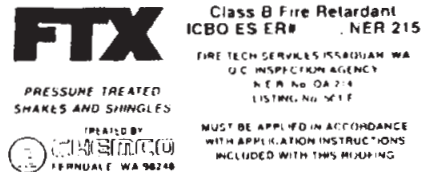


FIGURE 2—PRODUCT LABELS