

ICC-ES Evaluation Report

ESR-4012

Reissued February 2024

Revised July 2024

Subject to renewal February 2026


This report also contains:

- CBC Supplement

- FBC Supplement

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<p>DIVISION: 06 00 00— WOOD, PLASTICS AND COMPOSITES</p> <p>Section: 06 05 73.33— Preservative Wood Treatment</p> <p>DIVISION: 07 00 00— THERMAL AND MOISTURE PROTECTION</p> <p>Section: 07 46 23— Wood Siding</p>	<p>REPORT HOLDER:</p> <p>ROSEBURG FOREST PRODUCTS COMPANY</p>	<p>EVALUATION SUBJECT:</p> <p>ARMORITE® TREATED EXTERIOR COMPOSITE TRIM</p>	
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1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021, 2018 and 2015 [International Building Code® \(IBC\)](#)
- 2021, 2018 and 2015 [International Residential Code® \(IRC\)](#)

Properties evaluated:

- Weather Resistance
- Termite Resistance
- Decay resistance above ground
- Corrosion
- Structural

1.2 Evaluation to the following green code(s) and/or standards:

- 2019 [California Green Building Standards Code \(CALGreen\)](#), Title 24, Part 11
- 2020, 2015, 2012 and 2008 ICC 700 [National Green Building Standard™](#) (ICC 700-2020, ICC 700-2015, ICC 700-2012 and ICC 700-2008)

2.0 USES

Armorite® Treated Exterior Composite Trim is used as non-load-bearing exterior trim.

3.0 DESCRIPTION

3.1 General:

Armorite® Treated Exterior Composite Trim is a wood composite containing zinc borate at a minimum level of 0.75% (w/w). Armorite® Treated Exterior Composite Trim is recognized for use in aboveground applications (UC3A) and resists attack by fungal decay and subterranean termites, including Formosan termites.

3.2 Material:

The material is formed by blending a zinc borate slurry with 100% softwood mill fibers and then laying down a continuous mat. The mat is hot pressed to form boards which are then cut to size and primed.

Armorite® Treated Exterior Composite Trim is available in the dimensions noted in [Table 1](#).

The attributes of the exterior composite trim have been verified as conforming to the requirements of (i) CALGreen Section A4.405.1.1 for prefinished building materials and Section A5.406.1.2 for reduced maintenance; (ii) ICC 700-2020, ICC 700-2015 and ICC 700-2012 Sections 602.1.6 and 11.602.1.6 for termite-resistant materials; (iii) ICC 700-2020 Sections 601.7 and 11.601.7 and ICC 700-2015 and ICC 700-2012 Sections 601.7, 11.601.7, and 12.1(A).601.7 for site-applied finishing materials; and (iii) ICC 700-2008 Section 602.8 for termite-resistant materials and Section 601.7 for site-applied finishing materials. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

4.0 DESIGN AND INSTALLATION

4.1 General:

Armorite® Treated Exterior Composite Trim is installed in accordance with the manufacturer's published installation instructions and this report. The manufacturer's published installation instructions and this report must be strictly adhered to, and a copy of the instructions must be available at all times on the jobsite during installation. The instructions within this report must govern if there are any conflicts between the manufacturer's published installation instructions and this report.

4.2 Fasteners:

Fasteners used with Armorite® Treated Exterior Composite Trim must be hot-dipped zinc-coated galvanized steel or other corrosion-resistant fasteners in accordance with Section 2304.10.6 of the 2021 IBC (Section 2304.10.5 of the 2018 IBC) and Section R317.3 of the IRC. Nails are 6d, 8d or 15 gauge finish nails or headed nails long enough to penetrate solid wood substrates a minimum of 1¹/₄ inches (32 mm). The fasteners are spaced at 16 inches (406 mm) and 24 inches (610 mm) on center. When used for fascia applications, the fasteners are spaced 24 inches (610 mm) on center.

4.3 Structural:

Maximum allowable transverse wind loads for Armorite® Treated Exterior Composite Trim are as noted in [Table 2](#) for 3/8-inch (9.53 mm) thick, [Table 3](#) for 3/4-inch (19.1 mm), [Table 4](#) for 1.181-inch (mm) thick and [Table 5](#) for 1¹/₄-inch (30 mm) thick. Allowable wind loads for trim thicknesses between 3/8 inch (12.7 mm), 3/4-inch and 1¹/₄-inch (31.8 mm) may be interpolated when approved by the code official.

5.0 CONDITIONS OF USE:

The Armorite® Treated Exterior Composite Trim described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 This evaluation report and the manufacturer's published installation instructions, when required by the code official, must be submitted at the time of permit application.
- 5.2 The trim must be manufactured, identified and installed in accordance with this report and the Roseburg Forest Products Company.
- 5.3 The product must be limited to the following construction types:
 - Non-load-bearing exterior trim on buildings of Type VB construction under the IBC.
 - Combustible architectural trim on exterior walls of buildings of Type I, II, III and IV construction under the IBC. The buildings are limited to 40 feet (12.2 m) in height above grade. The trim must be no less than 0.438 inch (11.1 mm) thick and must be backed by noncombustible material [Section 1404.5 of the 2021 and 2018 IBC (Section 1405.5 of the 2015 IBC)].
 - All buildings permitted under the IRC.
- 5.4 The product must be installed over solid backing material, such as approved exterior sheathing covered with an approved water-resistant barrier or approved exterior wall covering.
- 5.5 Armorite® Treated Exterior Composite Trim is manufactured at the Roseburg Forest Products Company facility in Medford, Oregon, under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Wood-based Exterior Composite Trim Treated with Zinc Borate \(ZB\) Preservative by a Non-pressure Process \(AC424\)](#), dated August 2017 (editorially revised July 2022).

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-4012) along with the name, registered trademark, or registered logo of the report holder (RoseBurg Forest Products Company) must be included in the product label.
- 7.2 In addition, each package of Armorite® Treated Exterior Composite Trim described in this report must be labeled with the Roseburg Forest Products Company address and telephone number; the product trade name; and the evaluation report number (ESR-4012).
- 7.3 The report holder's contact information is the following:

ROSEBURG FOREST PRODUCTS COMPANY
3660 GATEWAY STREET
SPRINGFIELD, OREGON 97477
(541) 679-3311
(800) 245-1115
www.roseburg.com

TABLE 1-- ARMORITE® TREATED EXTERIOR COMPOSITE TRIM AVAILABLE DIMENSIONS

THICKNESS (inches)	MINIMUM (inch), AVERAGE PER LAP ¹	MAXIMUM (inch), AVERAGE PER LAP ¹	WIDTH, NOMINAL [ACTUAL] (in.) ²
0.375 (³ / ₈)	0.356	0.394	2 [2]
0.50 (¹ / ₂)	0.475	0.525	3 [2.5]
0.625 (⁵ / ₈)	0.6	0.65	4 [3.5]
0.669	0.644	0.694	5 [4.5]
0.72 (¹⁸ / ₂₅)	0.695	0.745	6 [5.5]
0.75 (³ / ₄)	0.725	0.775	8 [7.25]
0.875 (⁷ / ₈)	0.845	0.895	10 [9.25]
0.883	0.852	0.902	12 [11.25]
1.0	0.965	1.015	16 [15.5]
1.181	1.135	1.221	
1.25 (¹ / ₄)	1.20	1.30	

For SI: 1 inch = 25.4 mm.

¹A lap length of trim typically 16 feet in length.

²Trim widths have a tolerance of +/- 0.125-inch (3.175 mm).

TABLE 2—ARMORITE® TREATED EXTERIOR COMPOSITE TRIM - MAXIMUM ALLOWABLE TRANSVERSE WIND LOADS FOR 3/8-INCH-THICK TRIM SECURED USING 8d COMMON NAILS²

NOMINAL ¹ TRIM WIDTH ¹ (inches)	NUMBER OF FASTENERS	FASTENER SPACING (inches)	MAXIMUM ALLOWABLE LOAD ³ (psf)	MAXIMUM WIND SPEED ⁴ (mph)		
				Wind Exposure Category		
				B	C	D
2	1	24	42	150	125	115
		16	95	180	180	175
3	1	24	42	150	125	115
		16	95	180	180	175
4	1	24	42	150	125	115
		16	95	180	180	175
5	2	24	42	150	125	115
		16	95	180	180	175
6	2	24	42	150	125	115
		16	95	180	180	175
8	2	24	42	150	125	115
		16	95	180	180	175
10	2	24	42	150	125	115
		16	95	180	180	175
	3	24	42	150	125	115
		16	95	180	180	175
12	2	24	42	150	125	115
		16	95	180	180	175
	3	24	42	150	125	115
		16	95	180	180	175
16	2	24	42	150	125	115
		16	83	180	175	165
	3	24	42	150	125	115
		16	95	180	180	175

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 km/h.

¹See Section 3.2 (Material) for actual trim width dimensions.

²Fasteners must have minimum head diameter of 0.28 inch, a minimum shaft diameter of 0.13 inch, and a minimum length of 2.5 inches (8d common nail).

³Wall framing must have minimum specific gravity of 0.42.

⁴Three-second-gust; based on a building height of 40 feet and an importance factor of 1.0 in accordance with Section 30.3 of ASCE 7-16 (Section 30.4 of ASCE 7-10).

TABLE 3—ARMORITE® TREATED EXTERIOR COMPOSITE TRIM - MAXIMUM ALLOWABLE TRANSVERSE WIND LOADS FOR 1/2-INCH-THICK TRIM SECURED USING 8d COMMON NAILS²

NOMINAL ¹ TRIM WIDTH ¹ (inches)	NUMBER OF FASTENERS	FASTENER SPACING (inches)	MAXIMUM ALLOWABLE LOAD ³ (psf)	MAXIMUM WIND SPEED ⁴ (mph)		
				Wind Exposure Category		
				B	C	D
2	1	24	56	170	145	135
		16	125	180	180	180
3	1	24	56	170	145	135
		16	125	180	180	180
4	1	24	56	170	145	135
		16	104	180	180	180
5	2	24	56	170	145	135
		16	125	180	180	180
6	2	24	56	170	145	135
		16	125	180	180	180
8	2	24	56	170	145	135
		16	103	180	180	180
10	2	24	54	165	140	130
		16	81	180	175	160
	3	24	56	170	145	135
		16	121	180	180	180
12	2	24	44	150	130	120
		16	66	180	160	145
	3	24	56	170	145	135
		16	100	180	180	180
16	2	24	32	130	110	100
		16	48	160	135	125
	3	24	48	160	135	125
		16	73	180	165	155

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 km/h.

¹See Section 3.2 (Material) for actual trim width dimensions.

²Fasteners must have minimum head diameter of 0.28 inch, a minimum shaft diameter of 0.13 inch, and a minimum length of 2.5 inches (8d common nail).

³Wall framing must have minimum specific gravity of 0.42.

⁴Three-second-gust; based on a building height of 40 feet and an importance factor of 1.0 in accordance with Section 30.3 of ASCE 7-16 (Section 30.4 of ASCE 7-10).

TABLE 4—ARMORITE® TREATED EXTERIOR COMPOSITE TRIM - MAXIMUM ALLOWABLE TRANSVERSE WIND LOADS FOR 1.181-INCH-THICK TRIM SECURED USING 8d COMMON NAILS²

NOMINAL ¹ TRIM WIDTH ¹ (inches)	NUMBER OF FASTENERS	FASTENER SPACING (inches)	MAXIMUM ALLOWABLE LOAD ³ (psf)	MAXIMUM WIND SPEED ⁴ (mph)		
				Wind Exposure Category		
				B	C	D
2	1	24	121	180	180	180
		16	182	180	180	180
3	1	24	98	180	180	180
		16	147	180	180	180
4	1	24	71	180	165	150
		16	107	180	180	180
5	2	24	112	180	180	180
		16	167	180	180	180
6	2	24	92	180	180	170
		16	138	180	180	180
8	2	24	70	180	160	150
		16	105	180	180	180
10	2	24	55	170	145	135
		16	83	180	175	165
	3	24	83	180	175	165
		16	124	180	180	180
12	2	24	45	155	130	120
		16	68	180	160	150
	3	24	68	180	160	150
		16	102	180	180	180
16	2	24	33	130	110	105
		16	50	160	135	125
	3	24	50	160	135	125
		16	74	180	165	155

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 km/h.

¹See Section 3.2 (Material) for actual trim width dimensions.

²Fasteners must have minimum head diameter of 0.28 inch, a minimum shaft diameter of 0.13 inch, and a minimum length of 2.5 inches (8d common nail).

³Wall framing must have minimum specific gravity of 0.42.

⁴Three-second-gust; based on a building height of 40 feet and an importance factor of 1.0 in accordance with Section 30.3 of ASCE 7-16 (Section 30.4 of ASCE 7-10).

TABLE 5—ARMORITE® TREATED EXTERIOR COMPOSITE TRIM - MAXIMUM ALLOWABLE TRANSVERSE WIND LOADS FOR 1 1/4-INCH-THICK TRIM SECURED USING 8d COMMON NAILS²

NOMINAL ¹ TRIM WIDTH ¹ (inches)	NUMBER OF FASTENERS	FASTENER SPACING (inches)	MAXIMUM ALLOWABLE LOAD ³ (psf)	MAXIMUM WIND SPEED ⁴ (mph)		
				Wind Exposure Category		
				B	C	D
2	1	24	116	180	180	180
		16	174	180	180	180
3	1	24	94	180	180	175
		16	141	180	180	180
4	1	24	68	180	180	180
		16	102	180	180	180
5	2	24	106	180	180	180
		16	160	180	180	180
6	2	24	87	180	180	170
		16	131	180	180	180
8	2	24	67	180	160	145
		16	100	180	180	180
10	2	24	52	165	140	130
		16	79	180	170	160
	3	24	79	180	170	160
		16	118	180	180	180
12	2	24	43	150	130	120
		16	65	180	155	145
	3	24	65	180	155	145
		16	97	180	180	175
16	2	24	31	125	110	100
		16	47	155	135	125
	3	24	47	155	135	125
		16	71	155	135	125

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 km/h.

¹See Section 3.2 (Material) for actual trim width dimensions.

²Fasteners must have minimum head diameter of 0.28 inch, a minimum shaft diameter of 0.13 inch, and a minimum length of 2.5 inches (8d common nail).

³Wall framing must have minimum specific gravity of 0.42.

⁴Three-second-gust; based on a building height of 40 feet and an importance factor of 1.0 in accordance with Section 30.3 of ASCE 7-16 (Section 30.4 of ASCE 7-10).

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 05 73.33—Preservative Wood Treatment

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 46 23—Wood Siding

REPORT HOLDER:

ROSEBURG FOREST PRODUCTS COMPANY

EVALUATION SUBJECT:

ARMORITE® TREATED EXTERIOR COMPOSITE TRIM

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Armorite® Treated Exterior Composite Trim, described in ICC-ES evaluation report ESR-4012, has also been evaluated for compliance with the codes noted below.

Applicable code edition(s):

- 2022 *California Building Code* (CBC)

For evaluation of applicable Chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2022 *California Residential Code* (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The Armorite® Treated Exterior Composite Trim, described in Sections 2.0 through 7.0 of the evaluation report ESR-4012, complies with CBC Chapter 23, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapter 23, as applicable.

The Armorite® Treated Exterior Composite Trim has not been evaluated under Chapter 7A for use in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Fire Area.

2.1.1 OSHPD: The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA: The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CRC:

The Armorite® Treated Exterior Composite Trim, described in Sections 2.0 through 7.0 of the evaluation report ESR-4012, complies with CRC Chapter 3, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Chapter 3, as applicable.

The Armorite® Treated Exterior Composite Trim has not been evaluated under CRC Section R337 for use in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within 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 evaluation report, reissued February 2024 and revised July 2024.

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 05 73.33—Preservative Wood Treatment

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Purpose:

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Applicable code editions:

- 2023 Florida Building Code—Building
- 2023 Florida Building Code—Residential

2.0 CONCLUSIONS

The Armorite® Treated Exterior Composite Trim, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-4012, complies with the *Florida Building Code-Building* and *Florida Building Code-Residential*, provided the design requirements are determined in accordance with the *Florida Building Code-Building* or the *Florida Building Code-Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-4012 for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code-Building* or the *Florida Building Code-Residential*, as applicable, with the following condition:

- Installation must comply with Section R318.7 of the *Florida Building Code-Residential* or Section 1403.8 of the *Florida Building Code—Building*, as applicable.

Use of the Armorite® Treated Exterior Composite Trim has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code-Building* and *Florida Building Code-Residential*, with the following condition:

- Use of the Armorite® Treated Exterior Composite Trim in soffit and fascia applications for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code-Building* and *Florida Building Code—Residential* has not been evaluated, and is outside the scope of this supplemental report.

For products falling under Florida Rule 61G20-3, 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).

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