

ICC-ES Evaluation Report

ESR-4059

Reissued September 2024


This report also contains:

- FBC Supplement

Subject to renewal September 2025

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<p>DIVISION: 06 00 00 — WOOD, PLASTICS, AND COMPOSITES</p> <p>Section: 06 50 00 — Structural Plastics</p>	<p>REPORT HOLDER: WESTLAKE ROYAL BUILDING PRODUCTS</p>	<p>EVALUATION SUBJECT: CELLULAR PVC SHEET, TRIM AND PROFILES</p>	
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1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021, 2018, 2015, 2012, and 2009 [International Building Code® \(IBC\)](#)
- 2021, 2018, 2015, 2012 and 2009 [International Residential Code® \(IRC\)](#)

Properties evaluated:

- Weather resistance
- Termite resistance
- Surface burning characteristics
- Structural—negative-transverse wind loads on soffits

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

- 2022 [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)

Attributes verified:

- See Section 3.1

2.0 USES

Cellular PVC Sheet, Trim and Profiles are used as nonload-bearing exterior trim.

3.0 DESCRIPTION

3.1 General:

Cellular PVC Sheet, Trim and Profiles are rigid cellular PVC solid cross sections installed as window and door trim; fascia, corners and eaves, column wraps, and decorative bead board. The material is expanded rigid poly-vinyl-chloride material.

Cellular PVC Sheet, Trim and Profiles are covered under this evaluation report, up to a maximum nominal thickness of 1¹/₄ inches (31.8 mm), have a flame-spread index of less than 200 when tested in accordance with ASTM E84.

The attributes of the exterior 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; ICC 700-2020 Sections 601.7 and 11.601.7; ICC 700-2015 and 2012 Sections 601.7, 11.601.7, and 12.1(A).601.7 for prefinished materials; and (iii) ICC 700-2008 Section 602.8 for termite-resistant materials and Section 601.7 for prefinished 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.

3.1.1 Cellular PVC Sheet and Trim

Cellular PVC Sheet and Trim are supplied with a smooth textured woodgrain finish surface. Cellular PVC Trim are available in nominal widths of 4 inches to 16 inches (101.6 to 406.4 mm) and nominal thicknesses of $\frac{5}{8}$, 1, and $1\frac{1}{4}$ inches (15.0, 25.4 and 31.8 mm). Cellular PVC Sheets are available in 4-foot (1.2 m) width and in lengths of 8, 10, 12, 18 and 20 feet (2.4, 3.0, 3.6, 5.4 and 6.0 m), with actual thicknesses of $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, 1 and $1\frac{1}{4}$ inches (9.5, 12.7, 15.0, 19.1, 25.4 and 31.8 mm).

3.1.2 Cellular PVC Profiles

Cellular PVC Profiles are supplied with smooth surface or textured woodgrain finish surfaces. Bead Boards are available in two nominal sizes, $\frac{1}{2}$ inch (12.7 mm) thick by 4 inches (101.6 mm) wide by 18 feet (5.5 m) long, and $\frac{1}{2}$ inch thick (12.7 mm) by 6 inches (152.4 mm) wide by 18 feet (5.5 m) long. The Bead Board available in the nominal size $\frac{1}{2}$ inch (12.7 mm) thick by 6 inches (152.4 mm) wide by 18 feet (5.5 m) long is available as milled or extruded. Bead Sheets are available in two nominal sizes, $\frac{1}{2}$ inch (12.7 mm) thick by 4 feet (1.2 m) wide by 8 feet (2.4 m) long and $\frac{1}{2}$ inch (12.7 mm) thick by 4 feet (1.2 m) wide by 10 feet (3.0 m) long. Trimboard Corners are available in nominal thicknesses of $1\frac{1}{4}$ inches (31.8 mm), nominal outside-corner widths of 4 and 6 inches (101.6 and 152.4 mm), and in lengths of 10 and 20 feet (3.0 and 6.1 m). Trimboard Corners with J Channel are available in nominal thickness of $1\frac{1}{4}$ inches (31.8 mm), nominal outside-corner widths of 4, 6 and 8 inches (101.6, 152.4 and 203.2 mm), and in lengths of 10 and 20 feet (3.0 and 6.1 m). Trimboard J Channel with Window Fin Relief are available in nominal thickness of $1\frac{1}{4}$ inches (31.8 mm), nominal outside-corner widths of 4 and 6 inches (101.6 and 152.4 mm), and in lengths of 18 feet (5.4 m). Trimboard Skirt Board is available in a nominal thickness of 1 and $1\frac{1}{4}$ inches (25.4 and 31.8 mm), nominal widths of 6 and 8 inches (152.4 and 203.2 mm), and a length of 18 feet (5.4 m). Trimboard with J Channel and Trimboard with Window Fin Relief are available in nominal thickness of $1\frac{1}{4}$ inches (31.8 mm), nominal outside-corner widths of 4 and 6 inches (101.6 and 152.4 mm), and in lengths of 18 feet (5.4 m). PostWrap Column Wrap is available in a nominal thickness of $\frac{1}{2}$ inches (12.7 mm) by $4\frac{3}{4}$ or $6\frac{3}{4}$ inches (120.7 or 171.5 mm) and a length of $8\frac{1}{2}$ feet or 10 feet (2.6 m or 3.0 m).

4.0 INSTALLATION

4.1 General:

Cellular PVC Sheets, Trim and Profiles must be installed in accordance with the manufacturer's published installation instructions and this report. 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 must be hot-dipped galvanized and must be approved box nails or Cortex coated steel wood screws designed for wood trim and wood siding with a thinner shank. Nails must have blunt points and full-round heads. Staples, small brads, and wire nails must not be used. The fasteners must be long enough to penetrate the solid wood substrate a minimum of $1\frac{1}{2}$ inches (38.1 mm). Use two fasteners per every framing member for trimboard applications. Trimboards 12 inches or wider, as well as sheets, will require additional fasteners. The fasteners located at board ends must be placed no more than 2 inches (50.8 mm) from the end of the board.

4.3 Negative Wind Load Assembly—Soffits Using Cellular PVC Trim:

Trimboards measuring $\frac{1}{2}$ -inch thick (12.7 mm) and $1\frac{1}{4}$ -inch thick (31.75 mm), and $\frac{1}{2}$ -inch thick (12.7 mm) tongue and groove Bead Board soffits have an allowable negative wind design load as indicated in [Table 1](#) of this report when installed on minimum 2-by-4 wood framing SPF stud grade (G = 0.42) spaced 16 inches (406.4 mm) on center. The Cellular PVC Trim and Bead Board must be installed with the long direction

perpendicular to the wood framing and must be fastened to each of the wood members with two 3¹/₄-inch-long (82.6 mm), 16d box nails, located 2 inches (50.8 mm) from the seam/edge of panels or with two 2-inch (50.8 mm), No. 10 Cortex coated steel wood screws, located 2 inches (50.8 mm) from the seam/edge of panels.

5.0 CONDITIONS OF USE

The Cellular PVC Sheet, Trim and Profiles 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 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 manufacturer's published installation instructions.
- 5.3 The product is limited to the following construction types:
 - 5.3.1 Nonload-bearing exterior trim on buildings of combustible non-fire-resistance-rated construction (Type VB of the IBC).
 - 5.3.2 All construction types 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.

6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Rigid Cellular PVC Nonload-Bearing Exterior Trim \(AC227\)](#), dated December 2019 (editorially revised November 2021).

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-4059) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 In addition, each package Cellular PVC Sheet, Trim and Profiles described in this report must be labeled with the Westlake Royal Building Products name, address and telephone number; the product trade name; and the evaluation report number (ESR-4059).
- 7.3 The report holder's contact information is the following:

WESTLAKE ROYAL BUILDING PRODUCTS
2801 POST OAK BLVD.
SUITE 600
HOUSTON, TEXAS 77056
(855) 769-2585
<https://westlakeroyalbuildingproducts.com>

TABLE 1—ALLOWABLE NEGATIVE WIND PRESSURE¹

PRODUCT DESCRIPTION	FASTENER TYPE	FASTENER INSTALLATION	ALLOWABLE NEGATIVE WIND PRESSURE (PSF)
1/2-inch thick by 8-inch-wide trim board	16d by 3 1/2-inch (0.164-inch) diameter shank, hot-dipped galvanized steel common exterior framing nail	Two fasteners, minimum, per a framing member at 2-inches from edges	210
	Cortex coated steel wood screw		103
1 1/4-inch thick by 7 1/4-inch-wide trim board	16d by 3 1/2-inch (0.164-inch) diameter shank, hot-dipped galvanized steel common exterior framing nail		173
	Cortex coated steel wood screw		347
1/2-inch thick by 5 1/2-inch-wide tongue and groove bead board	16d by 3 1/2-inch (0.164-inch) diameter shank, hot-dipped galvanized steel common exterior framing nail		290
	Cortex coated steel wood screw		123

For SI: 1 inch= 25. 4 mm; 1 psf= 4.79 Pa.

¹ Installation must comply with Section 4.3 of this report.

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 50 00—Structural Plastics

REPORT HOLDER:

WESTLAKE ROYAL BUILDING PRODUCTS

EVALUATION SUBJECT:

CELLULAR PVC SHEET, TRIM AND PROFILES

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that Cellular PVC Sheet, and Trim Profiles, described in ICC-ES evaluation report ESR-4059, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

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

2.0 CONCLUSIONS

Cellular PVC Sheet, Trim and Profiles, described in Sections 2.0 through 7.0 of the evaluation report ESR-4059, comply with the *Florida Building Code—Building* and the *Florida Building Code—Residential*. The design requirements must be 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-4059 for the 2021 *International Building Code*® (IBC) and 2021 *International Residential Code*® (IRC) meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

Use of the Cellular PVC Sheet, Trim and Profiles 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 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).

This supplement expires concurrently with the evaluation report, reissued September 2024.