ICC-ES Evaluation Report

ESR-5141

Reissued October 2023

Subject to renewal October 2024

This report also contains:

- CBC Supplement

- FBC Supplement

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DIVISION: 07 00 00 — THERMAL AND MOISTURE PROTECTION **Section: 07 46 00 — Siding**	**REPORT HOLDER: DERBY BUILDING PRODUCTS, INC**	**EVALUATION SUBJECT: BEACH HOUSE SHAKE® COMPOSITE SHINGLE**	

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021 and 2018 *International Building Code®* (IBC)
- 2021 and 2018 *International Residential Code®* (IRC)

Properties evaluated:

- Exterior veneer
- Durability
- Wind load resistance
- Flame spread

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 2.0

2.0 USES

Beach House Shake® is used as an exterior wall covering over code-complying wood structural panel sheathing or other types of substrate capable of supporting the imposed loads on buildings of Type VB construction under the IBC, and on structures constructed in accordance with the IRC.

The attributes of the Beach House Shake® have been verified as conforming to the provisions of (i) CALGreen Sections A4.405.1.3 (prefinished materials) and A5.406.1.2 (reduced maintenance); (ii) ICC 700-2020 Section 601.7 and 11.601.7 (site-applied finishing materials); (iii) ICC 700-2015 and ICC 700-2012 Sections 601.7, 11.601.7, and 12.1(A).601.7 (site-applied finishing materials); and (iv) ICC 700-2008 Section 601.7 (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. The code may provide supplemental information as guidance.

3.0 DESCRIPTION

Beach House Shake® is molded from polypropylene (PP) resins and minerals. The siding conforms to, and is certified and labeled in accordance with, ASTM D7254. Siding accessory products include matching Beach House Shake® outside corners, PVC J-channels, outside corner posts and galvanized steel starter strips. The siding is available in a range of colors, textures simulating authentic cedar shingles, and profile designed to overlap at adjacent panel edges. Beach House Shake® has a nominal wall thickness of 0.080 inch (2.0 mm) and is 467/8 inches (1191 mm) long and 161/2 inches (419 mm) wide.

4.0 DESIGN AND INSTALLATION

4.1 General:

Beach House Shake® must be installed in accordance with the manufacturer's published installation instructions, the applicable code, 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 on the jobsite at all times during installation.

When tested in accordance with ASTM E84, all portions of the test specimen ahead of the flame front remained in position during testing. Beach House Shake® complies with 2021 and 2018 IBC Section 1403.12.1 and 2021 and 2018 IRC Section R703.14.3 and is not subject to the fire separation distance described in 2021 and 2018 IBC Section 1403.12.2.

4.2 Design:

4.2.1 General: The design wind pressures must be determined in accordance with the requirements of Chapter 16 of the IBC or Section R301.2.1 of the IRC, as applicable, and must not exceed the allowable wind pressures in Table 1, subject to the conditions in Sections 4.2.2 and 4.2.3 of this report.

4.2.2 IBC: For buildings constructed under the requirements of the IBC, Beach House Shake® must be installed as described in IBC Section 1404.18. Should the basic wind speed at the building locations exceed the conditions provided for in IBC Section 1404.18, installation must be in accordance with Section 4.2.1 of this report.

4.2.3 IRC: For buildings constructed in accordance with the IRC, Beach House Shake® must be installed as described in Section 4.1. Installation over sheathing other than foam plastic sheathing, in applications where the building's mean roof height and ultimate wind speed [2021 IRC Figure R301.2.1.1 (2018 IRC Figure R301.2(5)A)] are in accordance with Table R703.3.2, sheathing must be as required by Table R703.3(1) of the IRC. Should any of these conditions not be met, installation must be in accordance with Section 4.3 of this report.

4.3 Installation:

The Beach House Shake® must be backed by a substrate capable of withstanding the imposed positive and negative design wind loads. Sheathing substrate must be fastened to the wall framing in accordance with the applicable code, taking into account the transverse wind loads it will be subjected to in use. The sheathing substrate must be covered with an approved water-resistive barrier where required by code.

For each given profile, fastening must be in accordance with Table 1 to withstand the tabulated allowable negative wind pressures.

The fastener shank diameter and head diameter must be a minimum, respectively, of 0.120 inch (3.05 mm) and $^{7}/_{16}$ inch (11 mm). The fastener must be galvanized or aluminum roofing nails or screws. Siding fasteners must be installed through the centers of the nailing slots in the fastening flanges, leaving a space between the fastener head and the face of the flange, and leaving a minimum $^{3}/_{8}$-inch (9.53 mm) clearance at all J-channels and stops, so as not to restrict movement and to allow for thermal expansion and contraction of the panels. Once installed, each panel must be adjusted to the proper location and fixed in position by the installation of one fastener through the nonslotted hole in the center of the panel. See the manufacturer's published installation instructions for more details concerning installation. Accessories such as corners, starter strips and trim must be fastened at 8 inches (203 mm) on center in accordance with the manufacturer's published instructions. Flashing in accordance with the applicable code must be installed at all openings, penetrations, and abutments with dissimilar materials, and at terminations of the siding and soffit.

5.0 CONDITIONS OF USE:

Beach House Shake® 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 Installation must comply with this report, the manufacturer's published instructions, and the applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.

5.2 The siding is limited to the design pressures shown in Table 1. In jurisdictions adopting the IRC, the siding must be installed in accordance with Table R703.3(1) of the IRC, and limited to areas where the design wind pressure does not exceed the design values shown in Table 1.

5.3 Wind resistance of soffit panels is outside the scope of this report.

5.4 Under the IBC, the siding is limited to use on Construction Type VB and to structures constructed in accordance with the IRC.

5.5 Exterior walls must be braced or sheathed to resist racking loads with approved materials in accordance with the requirements of the applicable code.

5.6 Beach House Shake® Composite Shingle is manufactured at Derby Building Products Inc.'s facility located at St.-Augustin-de-Desmaures, Quebec, Canada, under an approved quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Polypropylene Siding (AC366), dated October 2018 (editorially revised March 2021).

7.0 IDENTIFICATION

7.1 The siding products described in this report are identified by a label on the packaging bearing the manufacturer's name (Derby Building Products, Inc.) and address, the product name, manufacturer's lot number, and the evaluation report number (ESR-5141). Also included on the label is the following statement: "Conforms to ASTM Specification D7254."

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

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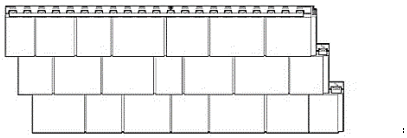

BEACH HOUSE SHAKE® COMPOSITE SHINGLE

FIGURE 1— Beach House Shake® Composite Shingle Profiles

TABLE 1—ALLOWABLE WIND PRESSURES

PRODUCT NAME	NAILING FLANGE THICKNESS (inches)	LENGTH (inches)	FASTENER SPACE (inches)	ALLOWABLE NEGATIVE WIND LOAD (psf)
BEACH HOUSE SHAKE® COMPOSITE SHINGLE	0.080	$46^{7}/_{8}$	16[1]	46[2]
			2[1]	80.9[3]

For **SI:** 1 inch = 25.4 mm, 1 psf = 47.88 Pa.

[1]For galvanized roofing nails with a length of $1^{1}/_{2}$ inches (38 mm).

[2]Allowable loads determined per A1.2.1 of ASTM D7254 (sustained test pressured/ [PEF * 1.5]) using a pressure equalization factor (PEF) of 0.36 and a factor of safety of 1.5.

[3]Allowable load determined using a pressure equalization factor (PEF) of 0.50 and a factor of safety of 1.5.

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

REPORT HOLDER:

DERBY BUILDING PRODUCTS, INC.

EVALUATION SUBJECT:

BEACH HOUSE SHAKE® COMPOSITE SHINGLE

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Beach House Shake® Composite Shingle, described in ICC-ES evaluation report ESR-5141, 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 Beach House Shake® Composite Shingle, described in Sections 2.0 through 7.0 of the evaluation report ESR-5141, complies with CBC Chapter 14, 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 14, as applicable.

The products have 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.

2.1.1.1 OSHPD:

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

2.1.1.2 DSA:

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

2.2 CRC:

The Beach House Shake® Composite Shingle, described in Sections 2.0 through 7.0 of the evaluation report ESR-5141, complies with CRC Chapters 7, 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 7, as applicable.

The products have 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 October 2023.

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Section: 07 46 00—Siding

REPORT HOLDER:

DERBY BUILDING PRODUCTS, INC.

EVALUATION SUBJECT:

BEACH HOUSE SHAKE® COMPOSITE SHINGLE

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Beach House Shake® Composite Shingle, described in ICC-ES evaluation report ESR-5141, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2020 *Florida Building Code—Building*
- 2020 *Florida Building Code—Residential*

2.0 CONCLUSIONS

Beach House Shake® Composite Shingle, described in Sections 2.0 through 7.0 of the evaluation report ESR-5141, complies with the *Florida Building Code—Building* and *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-5141 for the 2018 *International Building Code®* meet the requirements of the *Florida Building Code-Building* or the *Florida Building Code-Residential*, as applicable, with the following conditions:

1. Clearance between exterior wall coverings and final earth grade must meet the requirements of Section 1403.8 of the *Florida Building Code—Building* or Section R318.7 *Florida Building Code—Residential*, as applicable.
2. Installation over foam sheathing under the *Florida Building Code—Residential* must be in accordance with Section R703.11.2.

Use of the Beach House Shake® Composite Shingle installed over solid sheathings with a maximum approved corrosion-resistant nail spacing of 2 inches (51 mm) on center, as described in Table 1 of the ICC-ES evaluation report ESR-5141, has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code-Building* or the *Florida Building Code-Residential*. In addition to the data noted in Section 6.0 of the evaluation report ESR-4151, data in accordance with *Florida Building Code* Test Protocols for High-Velocity Hurricane Zones, TAS 202 and TAS 203 was submitted.

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 October 2023.