

ICC-ES Evaluation Report

ESR-3070

Reissued September 2023


This report also contains:

- FBC Supplement

Subject to renewal September 2024

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<p>DIVISION: 07 00 00 - THERMAL AND MOISTURE PROTECTION</p> <p>Section: 07 46 00—Siding</p>	<p>REPORT HOLDER: DERBY BUILDING PRODUCTS, INC.</p>	<p>EVALUATION SUBJECT: TANDOSHAKE®</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® \(IRC\)](#)
- 2013 *Abu Dhabi International Building Code (ADIBC)*†

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

Properties evaluated:

- Exterior veneer
- Durability
- Wind load resistance
- Flame spread
- Fire-resistance-rated walls (2021 and 2018 IBC only)
- Ignition resistance (2021 and 2018 IBC only)

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

TandoShake® profiles, TandoShake® Rustic Cedar 6, TandoShake® Cape Cod Perfection, are used as exterior wall coverings over a code-complying wood structural panel sheathing or other type of substrate capable of supporting the imposed loads on buildings of all types of construction under the 2021 and 2018 IBC, and on structures constructed in accordance with the IRC. Other TandoShake® products are limited to Type VB construction under the 2021, 2018, 2015, 2012, and 2009 IBC, and on structures constructed in accordance with the IRC.

The attributes of the TandoShake® 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 Sections 601.7 and 11.601.7; (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

TandoShake® is molded from polypropylene (PP) resins. The siding conforms to, and is certified and labeled in accordance with, ASTM D7254. Siding accessory products include matching TandoShake® outside corners, PVC J-channels, outside corner posts and galvanized steel starter strips. The siding is available in a range of colors, textures, and profiles designed to overlap at adjacent panel edges. The siding is produced in nominal wall thicknesses of 0.080 and 0.09 inch (2.0 mm and 2.3 mm) and is available in finishes simulating cedar shingles, roughsawn and hand split shakes. Refer to [Table 2](#) for the profile names and related descriptive information.

4.0 DESIGN AND INSTALLATION

4.1 General:

TandoShake® 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. The TandoShake®: TandoShake® Rustic Cedar 6, TandoShake® Cape Cod Perfection, complies with 2021 and 2018 IBC Section 1403.12.1 (2015 and 2012 IBC Section 1404.12.1), and 2021 and 2018 IRC Section R703.14.3 and is not subject to the fire separation distance as described in 2018 IBC Section 1403.12.2 (2015 and 2012 IBC Section 1404.12.2 and IRC R703.14.2).

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, TandoShake® must be installed as described in 2021 and 2018 IBC Section 1404.18 (2015 and 2012 IBC Section 1405.18) or installed over solid sheathing as described in 2009 IBC Section 1405.14.1 and Section 4.1 of this report. Should the basic wind speed at the building locations exceed the conditions provided for in 2021 and 2018 IBC Section 1404.18 [2015 and 2012 IBC Section 1405.18 (2009 IBC Section 1405.14)], 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, TandoShake® must be installed as described in Section 4.1 and in accordance with one of the following conditions:

1. For the 2021, 2018 and 2015 IRC, installation over sheathing other than foam plastic sheathing, in applications where the building's mean roof height and ultimate wind speed for 2021 IRC Figure R301.2.1.1 [2018 IRC Figure R301.2(5)A (2015 IRC Figure R301.2(4)A)] are in accordance with Table R703.3.1, 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.

2. For the 2012 and 2009 IRC, installation over sheathing other than foam plastic sheathing, in applications where the building's mean roof height does not exceed 30 feet and the basic wind speed [Figure R301.2(4)A] is less than 110 mph (49 m/s) in Exposure B, and does not exceed 90 mph (40 m/s) in Exposure C or 85 mph (37 m/s) in Exposure D, sheathing must be as required by Table R703.4 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 TandoShake® must be backed by 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 $\frac{7}{16}$ 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 $\frac{3}{8}$ -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 on center (203 mm) 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.

4.3.1 Use on Exterior Walls in Types I, II, III, and IV Construction in accordance with 2021 and 2018 IBC Section 1405.1 (Ignition Resistance):

When the exterior wall is sheathed with fire retardant treated wood sheathing, only TandoShake® profiles, TandoShake® Rustic Cedar 6 or TandoShake® Cape Cod Perfection can be used on the exterior side of exterior walls on buildings of Type I, II, III or IV construction. The siding products show no sustained flaming at a maximum tolerable level of incident radiant heat flux of 12.5 kW/m², when tested in accordance with NFPA 268. The minimum fire separation distance required shall be determined from 2021 and 2018 IBC Table 1405.1.1.1.2. The installation of the siding products must comply with the applicable requirements in 2021 and 2018 IBC Section 1405.1. When the exterior wall is required to be fire-resistance-rated, the fire separation distance must be in accordance with IBC Section 705.5.

4.3.2 One-hour Fire-resistance-rated wall Assembly (Exposed from both sides):

Under the 2021 and 2018 IBC, the wall assemblies constructed with TandoShake® Rustic Cedar 6 or TandoShake® Cape Cod Perfection siding, may be used as an alternate to the wall covering required for the one-hour fire-resistance-rated wall assembly specified in 2021 and 2018 IBC Item 15-1.15 of Table 721.1 (2). The siding must be installed over the exterior face of the assembly using 2 $\frac{1}{2}$ inch (63.5 mm) long washer head wood screws, spaced 16 inches (406 mm) on center. The siding must be fastened through the gypsum sheathing to the studs. The assembly must be used with a minimum fire separation distance of 5 feet (127 mm).

5.0 CONDITIONS OF USE

The TandoShake® products 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 2021, 2018 and 2015 IRC and Table R703.4 of the 2012 and 2009 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 2021 and 2018 IBC, the TandoShake® products, TandoShake® Rustic Cedar 6 or TandoShake® Cape Cod Perfection, may be used on the exterior side of exterior walls on buildings of Types I through IV construction and to structures constructed in accordance with the IRC. Other TandoShake® products are limited to Type VB construction and on structures constructed in accordance with the IRC.
- 5.5 Under the 2015, 2012 and 2009 IBC, the siding is limited to use on Construction Type VB and to structures constructed in accordance with the IRC.
- 5.6 Under Section 1403.12.2 of the 2021 and 2018 IBC [Section 1404.12.2 of the 2015 and 2012 IBC], the fire separation distance between the building with the siding and adjacent buildings must be no less than 10 feet (3048 mm), except TandoShake® Rustic Cedar 6 or TandoShake® Cape Cod Perfection
- 5.7 Under Section R703.14.2 of the IRC, TandoShake® products, except TandoShake® Rustic Cedar 6 or TandoShake® Cape Cod Perfection must not be installed on walls with a fire separation distance of less than 5 feet (1524 mm) and walls closer than 10 feet (3048) to a building on another lot.
- 5.8 Exterior walls must be braced or sheathed to resist racking loads with approved materials in accordance with the requirements of the applicable code.
- 5.9 The TandoShake® products are 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.

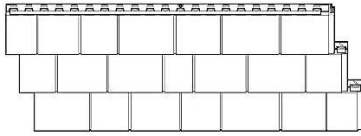
6.0 EVIDENCE SUBMITTED

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-3070). 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:

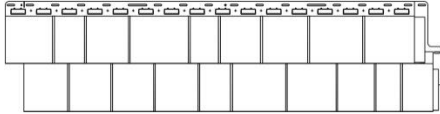
DERBY BUILDING PRODUCTS, INC.
160 DES GRANDS-LACS
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TANDOSHAKE® CAPE COD PERFECTION



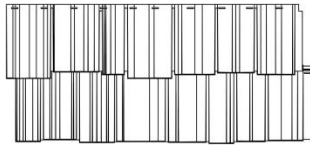
TANDOSHAKE® ROUGHSAWN CEDAR SINGLE



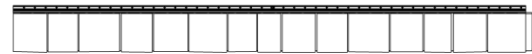
TANDOSHAKE® ROUGHSAWN CEDAR DUAL



TANDOSHAKE® RUSTIC CEDAR 9



TANDOSHAKE® HAND SPLIT SHAKE



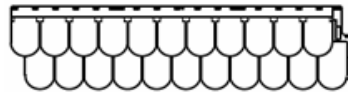
TANDOSHAKE® RUSTIC CEDAR 6



TANDOSHAKE® ROUGHSAWN CEDAR STAGGERED PANEL



TANDOSHAKE® R&R 4.5"



TANDOSHAKE® SCALLOPED PERFECTION

FIGURE 1—TANDOSHAKE® POLYMER SIDING PRODUCT PROFILES

TABLE 1—ALLOWABLE WIND PRESSURES

PRODUCT NAME	NAILING FLANGE THICKNESS (inches)	LENGTH (inches)	FASTENER SPACE (inches)	ALLOWABLE NEGATIVE WIND LOAD (psf)
TANDOSHAKE® CAPE COD PERFECTION	0.080	46 ⁷ / ₈	16 ²	46 ³
			2 ²	80.9 ⁴
TANDOSHAKE® ROUGHSAWN CEDAR SINGLE	0.090	90 ¹ / ₁₆	8 ¹	164 ³
TANDOSHAKE® ROUGHSAWN CEDAR DUAL	0.090	59 ¹ / ₈	10 ¹	127 ³
TANDOSHAKE® RUSTIC CEDAR 9	0.090	72 ⁷ / ₈	8 ¹	154 ³
TANDOSHAKE® HAND-SPLIT SHAKE	0.090	41 ³ / ₈	8 ¹	49 ³
TANDOSHAKE® RUSTIC CEDAR 6	0.085	96.1	16 ²	46 ³
TANDOSHAKE® ROUGHSAWN CEDAR STAGGERED PANEL	0.090	59 ¹ / ₈	10 ¹	127 ³
TANDOSHAKE® R&R 4.5"	0.090	43 ⁵ / ₈	8 ¹	167 ³
TANDOSHAKE® SCALLOPED PERFECTION	0.090	59 ¹ / ₈	8 ¹	145 ³

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

¹For galvanized roofing nails with a length of 2 inches (51 mm).

²For galvanized roofing nails with a length of 1¹/₂ inches (38 mm).

³Allowable 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.

⁴Allowable load determined using a pressure equalization factor (PEF) of 0.50 and a factor of safety of 1.5.

TABLE 2—PRODUCT DESCRIPTION

PRODUCT NAME	DESCRIPTION
TandoShake® Cape Cod Perfection	Polypropylene Siding; available in multiple colors; overall dimensions: 46.88" X 16.5" X 0.080"
TandoShake® RoughSawn Cedar Single	Polypropylene Siding; available in multiple colors; overall dimension: 90 ¹ / ₁₆ " X 8 ¹ / ₂ " X 0.090"
TandoShake® RoughSawn Cedar Dual	Polypropylene Siding; available in multiple colors; overall dimension: 59 ¹ / ₈ " X 15" X 0.090"
TandoShake® Rustic Cedar 9	Polypropylene Siding; available in multiple colors; overall dimension: 72 ⁷ / ₈ " X 11 ¹ / ₂ " X 0.090"
TandoShake® Hand-Split Shake	Polypropylene Siding; available in multiple colors; overall dimension: 41 ³ / ₈ " X 18 ¹ / ₂ " X 0.090"
TandoShake® Rustic Cedar 6	Polypropylene Siding; available in multiple colors; overall dimensions: 96.1" X 8.5" X 0.085"
TandoShake® RoughSawn Cedar Staggered Panel	Polypropylene Siding; available in multiple colors; overall dimension: 59 ¹ / ₈ " X 15 ¹ / ₄ " X 0.085"
TandoShake® R&R 4.5"	Polypropylene Siding; available in multiple colors; overall dimension: 43 ⁵ / ₈ " X 15 ¹ / ₂ " X 0.090"
TandoShake® Scalloped Perfection	Polypropylene Siding; available in multiple colors; overall dimension: 59 ¹ / ₈ " X 15 ¹ / ₈ " X 0.090"

For **SI**: 1 inch = 25.4 mm.

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

REPORT HOLDER:

DERBY BUILDING PRODUCTS, INC.

EVALUATION SUBJECT:

TANDOSHAKE®

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that TandoShake®, described in ICC-ES evaluation report ESR-3070, 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

The TandoShake®, described in Sections 2.0 through 7.0 of the evaluation report ESR-3070, complies with the *Florida Building Code—Building* and *Florida Building Code—Residential*. The design requirements shall 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-3070 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:

- The siding limited to use on Construction Type VB and to structures constructed in accordance with the FRC.
- 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.
- Installation over foam sheathing under the *Florida Building Code—Residential* must be in accordance with Section R703.11.2.

Use of the TandoShake® profile, TANDOSHAKE® CAPE COD PERFECTION, installed over solid sheathings with a maximum approved corrosion-resistant nail spacing of 2 inches (51 mm) on center, 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*.

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 2023.