ICC-ES Evaluation Report

ESR-2290

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This report also contains:

- **CA Supplement**
- **FL Supplement**

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES Section: 06 16 00—Sheathing DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION Section: 07 46 46—Fiber-Cement Siding	REPORT HOLDER: JAMES HARDIE BUILDING PRODUCTS, INC.	EVALUATION SUBJECT: HARDIE®SHINGLE PANELS, HARDIE®PLANK LAP SIDING, ARTISAN® LAP SIDING, AND HARDIE®SHINGLE INDIVIDUAL SHINGLES	

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021, 2018, 2015, 2012,2009 and 2006 *International Building Code®* (IBC)
- 2021, 2018, 2015, 2012, 2009 and 2006 *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:

- Weather protection
- Structural
- Types I, II, III, and IV (noncombustible) construction
- Fire-resistance-rated construction
- Thermal resistance

1.2 Evaluation to the following green standards:

- 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

James Hardie fiber-cement panels, plank lap siding, and cladding shingles are used as exterior wall covering. The products comply with 2021 and 2018 IBC Section 1403.10 [2015, 2012, 2009 and 2006 IBC Sections 1404.10] and IRC Section R703.10. The products may be used on exterior walls required to be of Type I, II, III or IV construction (IBC).

3.0 DESCRIPTION

3.1 General:

The exterior sidings are single-faced, cellulose fiber–reinforced cement (fiber-cement) products. Exterior sidings are identified as Hardie®Shingle panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles.

The products comply with ASTM C1186, as Grade II, Type A; have a flame-spread index of 0 and a smoke-developed index of 5 when tested in accordance with ASTM E84; and are classified as noncombustible when tested in accordance with ASTM E136. Thermal conductance (K) and resistance (R) values for the products are as shown in Table 2 of this report, based on testing in accordance with ASTM C177.

The attributes of the fiber-cement sidings have been verified as conforming to the provisions of (i) ICC 700-2020, ICC 700-2015 and ICC 700-2012 Sections 602.1.6 and 11.602.1.6 for termite-resistant materials; and (ii) ICC 700-2008 Section 602.8 for termite-resistant 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.

3.2 Siding:

Hardie®Shingle panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles are supplied either coated, or uncoated for subsequent application of a compatible exterior-grade top coat. Nominal product dimensions are noted in Table 1.

The products are available in a variety of finish textures. Hardie®Shingle panels are offered in three configurations: half-round, staggered-edge, and square-edge. Hardie®Shingle individual shingles are offered in two configurations: staggered-edge and square-edge.

3.3 Fasteners:

Fastener type, size, spacing and installation method must be as shown in the tables of this report. Fasteners must be made from corrosion-resistant steel.

4.0 DESIGN AND INSTALLATION

4.1 Design:

Walls: The maximum basic wind speeds for positive or negative transverse load resistance of Hardie®Shingle ®) panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles are presented in Tables 3 through 13.

4.2 Installation:

4.2.1 General: Installation must comply with this report, and a copy of this report must be available at all times on the jobsite during installation. All products may be cut to shape on-site by the score-and-snap method using a score-and-snap knife, a hand guillotine or a handsaw utilizing a carbide blade. A clear distance of 6 inches (152 mm) must be maintained between the siding and the earth. Unless otherwise noted in this report, the products must be installed in accordance with 2021 and 2018 IBC Section 1404.16; 2015, 2012, and 2009 IBC Section 1405.16; 2006 IBC Sections 1405.15, 1405.16, and 1405.17; 2021, 2018 and 2015 IRC Section R703.10 and Table R703.3; 2012, 2009, and 2006 IRC Section R703.10 and Table R703.4, as applicable.

4.2.2 Hardie®Shingle Panels: When installation is on wood or metal framing members, with or without wood structural panel sheathing, a water-resistive barrier must be applied over the wood or metal framing members or wood structural panel sheathing in accordance with the applicable code. The panels must be fastened in accordance with the provisions of Table 4 of this report.

A $^1/_8$-inch (3.2 mm) gap must be left at locations where the siding butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Vertical joints must occur over framing members and must be sealed with caulking or covered with battens. Horizontal joints must be flashed with metal Z-flashing and occur over solid blocking or wood structural panel sheathing.

4.2.3 Hardie®Plank (Cemplank®, Prevail®, and RFC®) Lap Siding: When installation is on wood framing members, metal framing members, or wood structural sheathing, the lap siding must be fastened either through the overlapping planks (face nailed) or through the top edge of single planks (blind nailed) in accordance with the provisions of Table 4 of this report. A water-resistive barrier must be applied over wood or metal framing members or wood structural panel sheathing in accordance with the applicable code. Lap siding installed over walls constructed of concrete masonry units complying with ASTM C90 must be applied in accordance with Tables 5 through 10. The lap siding requires the use of a starter strip to set the first course on the proper angle and to create a drip edge.

Vertical joints must occur over studs, except where the "off-stud splice device" is installed or where the planks are installed to wood structural panel sheathing complying with the applicable code, and must be staggered on subsequent courses. Where the "off-stud splice device" is installed, the splice device's bottom lip must be placed over the adjacent solid course of planks. The plank must then be fastened to the framing with corrosion-resistant fasteners. The abutting plank must be positioned and fastened into place ensuring that the lower edges of the two planks align. The metal device must be located centrally over the vertical joint.

Vertical joints between planks must be lightly butted or gapped and must be protected by one of the following methods: (a) sealed with caulking in accordance with the caulk manufacturer's published gapping requirements and caulking application instructions; or (b) covered with anH-section joint cover; or (c) located over a strip of non-perforated flashing complying with ASTM D226, Type I felt, or other approved flashing. Trim and corners must be installed, and the siding must be finished in accordance with the manufacturer's application instructions. A $^1/_8$-inch (3.2 mm) gap must be left at locations where the siding butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Horizontal joints must be flashed with Z-flashing and occur over solid blocking or wood structural panel sheathing.

4.2.4 Artisan® Lap Siding: When installation is on wood framing members, metal framing members, or wood structural sheathing, the lap siding must be fastened through the top edge of single planks (blind nailed) in accordance with the provisions of Table 4 of this report. A water-resistive barrier must be applied over wood or metal framing or wood structural panel sheathing in accordance with the applicable code. Lap siding installed over walls constructed of concrete masonry units complying with ASTM C90 must be applied in accordance with Tables 5 through 10. The lap siding requires the use of a starter strip to set the first course on the proper angle and to create a drip edge.

Vertical joints must be made off-stud. Joints may be located centrally between studs but no closer than 4 inches (102 mm) from the edge of a stud. Nails must not be placed within 1 inch (25.4 mm) of the end of the planks. Vertical joints must be staggered on subsequent courses. The plank must then be fastened to the framing with corrosion-resistant fasteners.

Vertical joints between planks must be lightly butted and must be located over a strip of non-perforated flashing complying with ASTM D226, Type I felt, or other approved flashing. Trim and corners must be installed, and the siding must be finished in accordance with the manufacturer's application instructions. A $^1/_8$-inch (3.2 mm) gap must be left at the locations where the siding butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Horizontal joints must be flashed with Z-flashing and must occur over solid blocking or wood structural panel sheathing.

4.2.5 Hardie®Shingle Individual Shingles: When installed on wood structural panel sheathing, the cladding shingles are fastened in accordance with the provisions of either Table 11, 12, or 13 of this report. A water-resistive barrier in accordance with the applicable code must be applied over the wood-based sheathing substrate to which the shingles are attached.

The individual shingles require the use of a starter strip to set the first course on the proper angle and to create a drip edge. The nominally $1^1/_4$-inch-wide-by-$^1/_4$-inch-thick starter strip and a minimum $8^1/_4$-inch-wide (210 mm) Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding starter course are installed over the water-resistive barrier with the bottom of the starter strip and starter course even with the bottom of the bottom plate. Shingles are spaced a maximum of $^1/_4$ inch (6.4 mm) apart, leaving a minimum side lap of $1^1/_2$ inches (38 mm) between the joints of successive courses. Fasteners must be spaced a minimum of $^3/_4$ inch (19 mm) and a maximum of 1 inch (25.4 mm) from shingle edges and must be positioned to be covered a nominal $1^1/_4$ inches by the succeeding shingle course; for 12-inch-wide (305 mm) shingles, the third nail (see Table 13) must be installed mid-span of the shingle. Nails must secure shingles but must not be over-driven. Trim and corners must be installed, and the shingles must be finished in accordance with the manufacturer's application instructions. A $^1/_8$-inch (3.2 mm) gap must be left at locations where the shingle butts against door and window trim and at internal or external corners; such gaps must be flashed in accordance with the applicable code, then caulked. Horizontal joints must be flashed with Z-flashing.

4.3 Fire-resistance-rated Wall Assembly (Hardie®Plank (Cemplank®, Prevail®, and RFC®) Lap Siding):

The asymmetrical, load-bearing, one-hour fire-resistance-rated wall assembly must consist of nominally 2-by-4 wood studs spaced a maximum of 24 inches (610 mm) on center, with two top plates and a single bottom plate. One layer of $^5/_8$-inch-thick (15.9), Type X, gypsum wallboard complying with ASTM C36 or ASTM C1396, 48 inches (1219 mm) wide, must be applied vertically to the interior face of the studs and secured with minimum $1^3/_4$-inch-long (44 mm) cup-head gypsum wallboard nails, spaced 7 inches (178 mm) on center at board edges and intermediate framing members. All board joints must be backed by framing. The $^5/_8$-inch-thick (15.9 mm), Type X, gypsum wallboard joints and nail heads must be finished in accordance with ASTM C840 or GA216. The exterior face of the wall must be covered with one layer of $^1/_2$-inch-thick (12.7 mm), Type X, water-resistant core treated gypsum sheathing complying with ASTM C36 or ASTM C1396 and one layer of maximum 12-inch-wide (305 mm) Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding lapped a minimum of $1^1/_4$ inches (32 mm). The $^1/_2$-inch-thick (12.7 mm), Type X, water-resistant core-treated gypsum sheathing must be applied vertically to the exterior side of the framing members with vertical edges staggered 24 inches (610 mm) from the joints on the opposite side. All board joints must be backed by framing. The $^1/_2$-inch-thick (12.7 mm), Type X, water-resistant core-treated gypsum sheathing must be fastened to the framing members with $1^3/_4$-inch-long (44 mm) roofing nails spaced 7 inches (178 mm) on center in the field and 4 inches (102 mm) on center along the perimeter of each board. The outer layer of $^5/_{16}$-inch-thick (7.5 mm), minimum 12-inch-wide (305 mm) Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding must be applied over the $^1/_2$-inch-thick (12.7 mm), Type X, water-resistant core-treated gypsum sheathing by attaching $1^1/_2$-inch-wide (38 mm) Hardie®Plank (Cemplank®, Prevail®, and RFC®) starter strips through the gypsum sheathing into the bottom plate and 12-inch-wide (305 mm) Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding applied horizontally with a minimum nominally $1^1/_4$-inch head lap, and fastening with a single 6d corrosion-resistant common nail driven through the lapped planks into each stud.

The axial load must be the lesser of the following, provided structural consideration for axial, flexural and bearing perpendicular-to-grain stresses is in accordance with ANSI/AWC NDS-2018 for the 2021, 2018 IBC and IRC; ANSI/AWC NDS-2015 for the 2015 IBC and IRC; ANSI/AF&PA NDS-2010 for the 2012 IBC or IRC (-2005 for the 2009 and 2006 IBC or IRC):

1. Maximum 100 percent of full allowable axial compressive design load permitted for the wood species.
2. Maximum allowable wood axial stress of 0.78 F'_c, which must not exceed 0.78 F'_c at a slenderness ratio l_e/d of 33.

5.0 CONDITIONS OF USE:

The Hardie®Shingle panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles 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 James Hardie® Building Products, Inc, products listed in this report must be installed in accordance with this report and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's instructions, this report governs.

5.2 Hardie®Shingle panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles must be installed on exterior walls braced in accordance the applicable code.

5.3 Design wind speeds applied to James Hardie® sidings described in this report must be determined in accordance with the applicable code and must be less than those shown in the wind speed tables in this report.

5.4 The sidings must be installed over a code-complying water-resistive barrier and as noted in this report.

5.5 For use in fire-resistance-rated construction, installation must be in accordance with Section 4.3.

5.6 Flashing must be installed at all penetrations and terminations in accordance with the applicable code.

5.7 Under the 2021 and 2018 IBC Section 1402.5; and 2015 or 2012 IBC, Section 1403.5, installation on exterior walls of buildings of Type I, II, III, and IV construction is limited to buildings that are not greater than 40 feet in height above grade plane and that feature a combustible water-resistive barrier, except as permitted under Exception 2 of the 2021 and 2018 IBC Section 1402.5 and 2015 IBC Section 1403.5.

5.8 The products are manufactured at the following locations, with quality control inspections by ICC-ES:

- Cleburne, Texas
- Peru, Illinois
- Plant City, Florida
- Prattville, Alabama

- Pulaski, Virginia
- Sparks, Nevada
- Tacoma, Washington
- Waxahachie, Texas
- Fontana, California
- Summerville, South Carolina

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Fiber Cement Siding Used as Exterior Wall Siding (AC90), dated October 2020 (editorially revised December 2020).

7.0 IDENTIFICATION

7.1 Pallets of the James Hardie® Building Products, Inc., Hardie®Shingle panels, Hardie®Plank (Cemplank®, Prevail®, and RFC®) lap siding, Artisan® Lap Siding, and Hardie®Shingle shingles must carry a label bearing the manufacturer's name and telephone number, the product name, the name of the inspection agency, ICC-ES, and the evaluation report number (ESR-2290).

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

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TABLE 1—STANDARD NOMINAL PANEL, PLANK AND SHINGLE DIMENSIONS

PRODUCT	WIDTH (INCHES)	LENGTH	THICKNESSES (INCHES)
Hardie®Plank lap siding	4, $5^1/_4$, 6, $6^1/_4$, $7^1/_4$, $7^1/_2$, 8, $8^1/_4$, $9^1/_4$, $9^1/_2$ & 12	12, 14 feet	$^5/_{16}$
Artisan® lap siding,	$5^1/_4$, $7^1/_4$,$8^1/_4$	12, 14 feet	$^5/_8$
Cemplank® lap siding	$5^1/_4$, 6, $6^1/_4$, $7^1/_4$, $7^1/_2$, 8, $8^1/_4$, $9^1/_2$ & 12	12, 14 feet	$^5/_{16}$
Prevail® lap siding	$5^1/_4$, 6, $6^1/_4$, $7^1/_4$, $7^1/_2$, 8, $8^1/_4$, $9^1/_2$ & 12	12, 14 feet	$^5/_{16}$
RFC® lap siding	$6^1/_4$, $7^1/_2$, $8^1/_4$, $9^1/_2$ & 12	12, 14 feet	$^5/_{16}$
Hardie®Shingle 5-inch exposure (square & staggered edge)	48	14 inches	$^1/_4$
Hardie®Shingle 7-inch exposure (square & staggered edge)	48	$15^1/_4$, $15^7/_8$ inches	$^1/_4$
Hardie®Shingle panel (square & staggered edge)	48	16 inches	$^1/_4$
Hardie®Shingle panel (half round)	48	16, 19 inches	$^1/_4$
Hardie®Shingle individual shingles 5-inch exposure	$3^1/_2$, $4^1/_2$, $5^1/_2$, 7, $8^3/_4$	14 inches	$^1/_4$
Hardie®Shingle individual shingles 7-inch exposure	$4^3/_{16}$, $5^1/_2$, $6^3/_4$, $7^1/_4$, 10,	$15^1/_4$ inches	$^1/_4$
Hardie®Shingle individual shingles	6, 8, & 12	18 inches	$^1/_4$

For **SI:** 1 inch = 25.4 mm, 1 ft = 305 mm.

TABLE 2—"K" and "R" VALUES FOR FIBER-CEMENT PRODUCTS

PRODUCT THICKNESS[3] (INCH)	THERMAL CONDUCTANCE[1] K_{EFF} = (BTU/HR-FT^2-°F)/INCH	THERMAL RESISTANCE[1] R = 1/K_{EFF}	ACTUAL THERMAL CONDUCTANCE[2] (K_{EFF})	ACTUAL THERMAL RESISTANCE[2] (R)
$^1/_4$	1.95	0.51	7.80	0.13
$^5/_{16}$	2.07	0.48	6.62	0.15

For **SI:** 1 inch = 25.4 mm, 1 Btu/h-ft^2-°F = 5.678 W/m^2-K.

[1]Based on 1 inch of panel thickness.
[2]Actual value for panel thickness shown.

TABLE 3—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph)

							2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[4,6,9,12])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[7,8]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[10,11])		
PRODUCT	THICK (IN.)	FASTENER TYPE[13]	FASTENER SPACING (IN.)	FRAME TYPE[1]	STUD SPACING (IN.)	BLDG. HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
							B	C	D	B	C	D
Hardie®Shingle Panel (straight or half round installation)	1/4	0.090" shank x 0.215" HD x 1 1/2" long ring shank nail[5]	13.75	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached to framing per code	0-15	126	85	-	163	110	-
						20	121	85	-	156	110	-
						40	105	85	-	136	110	-
						60	95	-	-	123	-	-
Hardie®Shingle Panel (staggered installation)	1/4	0.090" shank x 0.215" HD x 1 1/2" long ring shank nail[5]	13.75	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached to framing per code	0-15	105	85	-	136	110	-
						20	105	-	-	136	-	-
						40	95	-	-	123	-	-
						60	85	-	-	110	-	-
Hardie®Shingle Panel	1/4	0.090" shank x 0.215" HD x 1 1/2" long ring shank nail[5]	8	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached to framing per code	0-15	158	143	130	204	185	168
						20	158	139	127	204	179	164
						40	152	130	120	196	168	155
						60	143	124	115	185	160	148
Hardie®Shingle Panel	1/4	0.090" shank x 0.215" HD x 1 1/2" long ring shank nail[5]	6	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached to framing per code	0-15	172	156	142	222	201	183
						20	172	151	138	222	195	178
						40	165	141	130	213	182	168
						60	156	135	126	201	174	163
Hardie®Shingle Panel	1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	7" exposure, nailed at 16" o.c. (horizontal) and 7" o.c. (vertical)	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached to framing per code	0-15	113	102	93	146	132	120
						20	113	100	91	146	129	117
						40	108	93	86	140	120	110
						60	102	89	-	132	115	-
Hardie®Shingle Panel	1/4	0.083" shank x 0.187" HD x 1 1/2" long ring shank nail[2]	at each stud[3]	Nominal 2x4[1] or Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	137	116	217	177	150
						20	168	137	116	217	177	150
						40	168	126	105	217	163	136
						60	158	116	105	204	150	136
Hardie®Shingle Panel	1/4	0.083" shank x 0.187" HD x 1 1/2" long ring shank nail[2]	at each stud[3]	Nominal 2x4[1] or Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	147	105	85	190	136	110
						20	137	100	85	177	129	110
						40	126	95	-	163	123	-
						60	116	89	-	150	115	-

For **SI:** 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph – 0.44 m/s.

[1]Values are for species of wood having a specific gravity of 0.40 or greater.
[2]For application to metal framing members, fasteners must be ET & F Fastening Systems, Inc. ET&F Panelfast® nail, ET & F No. AGS-100-0150, head diameter = 0.313 in., shank diameter = 0.100 in., length = 1.5 in. Metal studs must be minimum Fy = 33 ksi.
[3]For application to ASTM C90 concrete masonry unit wall, fasteners must be either ET & F Fastening Systems, Inc. ET&F block nail (ET & F No. ASM-144-0125, head dia. = 0.30 in., shank dia. = 0.14 in., length = 1.25 in.), Max System block nail (CP-C 832 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.15 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.) applied at the equivalent fastener or stud spacing.
[4]Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: I = 1.0, K_{zt} = 1, K_d = 0.85, GC_{pi} = 0.18., GC_p=-1.4.
[5]For application to wood framing or wood-based sheathing, the minimum fastener penetration must be 1 inch into framing or the sheathing thickness as applicable.
[6]V_{asd} = nominal design wind speed.
[7]V_{ult} = ultimate design wind speed.
[8]Wind speed design assumptions per Section 30.4, of ASCE 7-10: Kzt = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[9] 2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd}=V_{ult}\sqrt{0.6}$
[10] V = basic design wind speed
[11] Wind speed design assumptions per Section 30.3, of ASCE 7-16: K_{zt} = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[12] 2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V\sqrt{0.6}$
[13] Smooth-shank stainless steel nails are outside of the scope of this report.

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	4	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	168	147	217	217	190
							20	168	168	147	217	217	190
							40	168	158	137	217	204	177
							60	168	147	126	217	190	163
Hardie®Plank	5/16	6	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	168	147	217	217	190
							20	168	168	147	217	217	190
							40	168	158	137	217	204	177
							60	168	147	126	217	190	163
Hardie®Plank	5/16	6 1/4	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	168	147	217	217	190
							20	168	168	137	217	217	177
							40	168	158	137	217	204	177
							60	168	147	126	217	190	163
Hardie®Plank	5/16	7 1/4 or 7 1/2	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	158	126	217	204	163
							20	168	147	126	217	190	163
							40	168	137	121	217	177	156
							60	168	126	116	217	163	150
Hardie®Plank	5/16	8	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	147	126	217	190	163
							20	168	147	126	217	190	163
							40	168	137	116	217	177	150
							60	168	126	105	217	163	136
Hardie®Plank	5/16	8 1/4	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	147	126	217	190	163
							20	168	147	116	217	190	150
							40	168	131	116	217	169	150
							60	158	126	105	204	163	136
Hardie®Plank	5/16	9 1/4 or 9 1/2	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	137	116	217	177	150
							20	168	137	116	217	177	150
							40	158	126	105	204	163	136
							60	147	116	105	190	150	136
Hardie®Plank	5/16	12	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	145	131	119	187	169	154
							20	145	127	116	187	164	150
							40	139	119	110	179	154	142
							60	131	114	106	169	147	137
Hardie®Plank	5/16	4	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	137	116	207	177	150
							20	160	137	116	207	177	150
							40	154	121	105	199	156	136
							60	145	116	100	187	150	129
Hardie®Plank	5/16	6	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	137	116	207	177	150
							20	160	137	116	207	177	150
							40	154	121	105	199	156	136
							60	145	116	100	187	150	129

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12.15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	6 1/4	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	137	116	207	177	150
							20	160	126	110	207	163	142
							40	147	121	105	190	156	136
							60	137	116	95	177	150	123
Hardie®Plank	5/16	7 1/4 or 7 1/2	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	116	100	207	150	129
							20	158	116	95	204	150	123
							40	137	105	89	177	136	115
							60	126	95	89	163	123	115
Hardie®Plank	5/16	8	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	116	95	207	150	123
							20	158	116	95	204	150	123
							40	137	105	89	177	136	115
							60	126	95	85	163	123	110
Hardie®Plank	5/16	8 1/4	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	158	116	95	204	150	123
							20	158	105	95	204	136	123
							40	137	100	85	177	129	110
							60	126	95	85	163	123	110
Hardie®Plank	5/16	9 1/4 or 9 1/2	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	147	105	85	190	136	110
							20	147	105	85	190	136	110
							40	126	95	85	163	123	110
							60	126	95	-	163	123	-
Hardie®Plank	5/16	12	ET&F pin 0.100" x 1.5" x 0.25" HD	Face Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	106	96	87	137	124	112
							20	106	93	85	137	120	110
							40	102	87	-	132	112	-
							60	96	-	-	124	-	-
Hardie®Plank	5/16	4	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	158	126	105	204	163	136
							20	158	121	100	204	156	129
							40	147	110	95	190	142	123
							60	137	105	95	177	136	123
Hardie®Plank	5/16	6	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	158	126	105	204	163	136
							20	158	121	100	204	156	129
							40	147	110	95	190	142	123
							60	137	105	95	177	136	123
Hardie®Plank	5/16	6 1/4	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	116	100	217	150	129
							20	158	116	95	204	150	123
							40	137	105	89	177	136	115
							60	126	100	85	163	129	110
Hardie®Plank	5/16	7 1/4 or 7 1/2	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	147	105	85	190	136	110
							20	137	100	85	177	129	110
							40	121	89	-	156	115	-
							60	110	85	-	142	110	-

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	8	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	137	95	85	177	123	110
							20	126	95	-	163	123	-
							40	116	85	-	150	110	-
							60	105	85	-	136	110	-
Hardie®Plank	5/16	8 1/4	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	137	95	-	177	123	-
							20	126	95	-	163	123	-
							40	116	85	-	150	110	-
							60	105	-	-	136	-	-
Hardie®Plank	5/16	4	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	158	110	95	204	142	123
							20	147	105	85	190	136	110
							40	126	95	85	163	123	110
							60	121	95	-	156	123	-
Hardie®Plank	5/16	6	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	158	110	95	204	142	123
							20	147	105	85	190	136	110
							40	126	95	85	163	123	110
							60	121	95	-	156	123	-
Hardie®Plank	5/16	6 1/4	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	147	105	85	190	136	110
							20	137	100	85	177	129	110
							40	126	95	-	163	123	-
							60	105	89	-	136	115	-
Hardie®Plank	5/16	7 1/4 or 7 1/2	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	137	95	85	177	123	110
							20	126	95	-	163	123	-
							40	116	85	-	150	110	-
							60	105	85	-	136	110	-
Hardie®Plank	5/16	8	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	126	85	-	163	110	-
							20	116	85	-	150	110	-
							40	100	-	-	129	-	-
							60	95	-	-	123	-	-
Hardie®Plank	5/16	8 1/4	ET&F pin 0.100" x 1.5" x 0.313" HD	Blind Nailed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	116	-	-	150	-	-
							20	105	-	-	136	-	-
							40	95	-	-	123	-	-
							60	85	-	-	110	-	-
Hardie®Plank	5/16	5 1/4	6d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	170	170	158	219	219	204
							20	170	169	154	219	218	199
							40	170	157	145	219	203	187
							60	170	151	140	219	194	180
Hardie®Plank	5/16	6 1/4	6d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	170	155	141	219	200	182
							20	170	151	138	219	195	178
							40	164	140	130	218	181	167
							60	155	135	125	207	174	161

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	7 1/4	6d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	156	142	129	202	183	166
							20	156	138	126	202	178	162
							40	150	128	118	193	165	153
							60	142	123	114	183	159	147
Hardie®Plank	5/16	7 1/2	6d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	153	139	126	197	179	163
							20	153	135	123	197	174	159
							40	147	125	116	190	162	150
							60	139	120	112	179	155	144
Hardie®Plank	5/16	8	6d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	147	134	121	190	172	157
							20	147	130	118	190	168	153
							40	141	121	111	182	156	144
							60	134	116	108	172	150	139
Hardie®Plank	5/16	8 1/4	6d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	145	131	119	187	169	154
							20	145	127	116	187	165	150
							40	139	119	110	179	153	141
							60	131	114	106	169	147	136
Hardie®Plank	5/16	9 1/4	6d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	135	123	111	175	158	144
							20	135	119	109	175	154	141
							40	130	111	102	168	143	132
							60	123	106	99	158	137	128
Hardie®Plank	5/16	9 1/2	6d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	133	121	110	172	156	142
							20	133	117	107	172	152	138
							40	128	109	101	165	141	130
							60	121	105	97	156	135	126
Hardie®Plank	5/16	5 1/4	6d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	156	142	129	201	183	166
							20	156	138	126	201	178	162
							40	150	128	118	193	165	153
							60	142	123	114	183	159	147
Hardie®Plank	5/16	6 1/4	6d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	140	127	115	180	164	149
							20	140	123	112	180	159	145
							40	134	115	106	173	148	137
							60	127	110	102	164	142	132
Hardie®Plank	5/16	7 1/4	6d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	127	116	105	165	149	136
							20	127	112	103	165	145	132
							40	122	105	97	158	135	125
							60	116	100	93	149	130	120
Hardie®Plank	5/16	7 1/2	6d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	125	113	103	161	146	133
							20	125	110	100	161	142	130
							40	120	102	95	155	132	122
							60	113	98	91	146	127	118

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	8	6d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	120	109	99	155	141	128
							20	120	106	97	155	137	125
							40	115	99	91	149	127	117
							60	109	95	88	141	122	113
Hardie®Plank	5/16	8 1/4	6d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	118	107	97	152	138	126
							20	118	104	95	152	134	123
							40	113	97	89	146	125	115
							60	107	93	86	138	120	111
Hardie®Plank	5/16	9 1/4	6d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	110	100	91	142	129	117
							20	110	97	89	142	126	115
							40	106	91	-	137	117	-
							60	100	87	-	129	112	-
Hardie®Plank	5/16	9 1/2	6d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	109	99	90	140	127	116
							20	109	96	87	140	124	113
							40	104	89	-	135	115	-
							60	99	85	-	127	110	-
Hardie®Plank	5/16	5 1/4	8d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	170	170	170	219	219	219
							20	170	170	170	219	219	219
							40	170	170	170	219	219	219
							60	170	170	170	219	219	219
Hardie®Plank	5/16	6 1/4	8d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	170	170	170	219	219	219
							20	170	170	170	219	219	219
							40	170	170	161	219	219	208
							60	170	168	156	219	217	201
Hardie®Plank	5/16	7 1/4	8d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	170	170	160	219	219	207
							20	170	170	157	219	219	203
							40	170	160	147	219	207	190
							60	170	153	142	219	198	183
Hardie®Plank	5/16	7 1/2	8d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	170	170	157	219	219	203
							20	170	168	154	219	217	199
							40	170	157	145	219	203	187
							60	170	150	139	219	194	179
Hardie®Plank	5/16	8	8d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	170	167	151	219	216	195
							20	170	162	148	219	209	191
							40	170	151	139	219	195	179
							60	167	144	134	216	186	173
Hardie®Plank	5/16	8 1/4	8d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	170	164	149	219	212	192
							20	170	159	145	219	205	187
							40	170	148	137	219	191	177
							60	164	142	132	212	183	170

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	9 1/4	8d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	169	153	139	218	198	179
							20	169	149	136	218	192	176
							40	162	138	128	209	178	165
							60	153	133	123	198	172	159
Hardie®Plank	5/16	9 1/2	8d common	Face Nailed Through plank overlap	2X4 wood	16	0-15	166	151	137	214	195	177
							20	166	146	134	214	188	173
							40	159	136	126	205	176	163
							60	151	131	121	195	169	156
Hardie®Plank	5/16	5 1/4	8d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	160	145	132	207	187	170
							20	160	141	129	207	182	167
							40	154	131	121	199	169	156
							60	145	126	117	187	163	151
Hardie®Plank	5/16	6 1/4	8d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	160	145	132	207	187	170
							20	160	141	129	207	182	167
							40	154	131	121	199	169	156
							60	145	126	117	187	163	151
Hardie®Plank	5/16	6 1/4	8d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	159	144	131	205	186	169
							20	159	140	128	205	181	165
							40	153	130	120	198	168	155
							60	144	125	116	186	161	150
Hardie®Plank	5/16	7 1/2	8d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	156	141	128	201	182	165
							20	156	137	125	201	177	161
							40	150	128	118	194	165	152
							60	141	123	114	182	159	147
Hardie®Plank	5/16	8	8d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	150	136	123	194	176	159
							20	150	132	121	194	170	156
							40	144	123	113	186	159	146
							60	136	118	109	176	152	141
Hardie®Plank	5/16	8 1/4	8d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	147	134	121	190	173	156
							20	147	130	118	190	168	152
							40	141	121	111	182	156	143
							60	134	116	108	173	150	139
Hardie®Plank	5/16	9 1/4	8d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	138	125	113	178	161	146
							20	138	121	111	178	156	143
							40	132	113	104	170	146	134
							60	125	108	101	161	139	130
Hardie®Plank	5/16	9 1/2	8d common	Face Nailed Through plank overlap	2X4 wood	24	0-15	136	123	112	176	159	145
							20	136	120	109	176	155	141
							40	130	111	103	168	143	133
							60	123	107	99	159	138	128

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	4	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	168	137	217	217	177
							20	168	158	137	217	204	177
							40	168	147	131	217	190	169
							60	168	137	126	217	177	163
Hardie®Plank	5/16	6	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	168	137	217	217	177
							20	168	158	137	217	204	177
							40	168	147	131	217	190	169
							60	168	137	126	217	177	163
Hardie®Plank	5/16	6 1/4	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	168	137	217	217	177
							20	168	158	137	217	204	177
							40	168	147	126	217	190	163
							60	168	137	121	217	177	156
Hardie®Plank	5/16	7 1/4 or 7 1/2	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	147	126	217	190	163
							20	168	147	121	217	190	156
							40	168	131	116	217	169	150
							60	168	126	105	217	163	136
Hardie®Plank	5/16	8	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	147	126	217	190	163
							20	168	147	121	217	190	156
							40	168	131	116	217	169	150
							60	158	126	105	204	163	136
Hardie®Plank	5/16	8 1/4	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	147	126	217	190	163
							20	168	137	121	217	177	156
							40	168	131	116	217	169	150
							60	158	121	105	204	156	136
Hardie®Plank	5/16	9 1/4 or 9 1/2	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	137	116	217	177	150
							20	168	131	110	217	169	142
							40	158	121	105	204	156	136
							60	147	116	100	190	150	129
Hardie®Plank	5/16	12	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	126	105	217	163	136
							20	168	121	95	217	156	123
							40	137	110	95	177	142	123
							60	137	105	89	177	136	115
Hardie®Plank	5/16	4	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	137	116	207	177	150
							20	160	137	116	207	177	150
							40	155	126	110	200	163	142
							60	145	116	105	187	150	136
Hardie®Plank	5/16	6	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	137	116	207	177	150
							20	160	137	116	207	177	150
							40	154	126	110	199	163	142
							60	145	116	105	187	150	136

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	6 1/4	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	145	116	207	187	150
							20	160	141	110	207	182	142
							40	154	131	105	199	169	136
							60	145	126	100	187	163	129
Hardie®Plank	5/16	7 1/4 or 7 1/2	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	126	105	207	163	136
							20	160	121	105	207	156	136
							40	147	110	95	190	142	123
							60	137	105	95	177	136	123
Hardie®Plank	5/16	8	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	126	105	207	163	136
							20	160	121	100	207	156	129
							40	147	110	95	190	142	123
							60	137	105	89	177	136	115
Hardie®Plank	5/16	8 1/4	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	121	105	207	156	136
							20	160	121	100	207	156	129
							40	137	105	95	177	136	123
							60	131	100	89	169	129	115
Hardie®Plank	5/16	9 1/4 or 9 1/2	No. 8-18, 1-5/8" long x 0.323" HD ribbed bugle head screw	Face Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	158	116	95	204	150	123
							20	158	110	95	204	142	123
							40	137	100	89	177	129	115
							60	126	95	85	163	123	110
Hardie®Plank	5/16	5 1/4	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	163	148	134	210	191	173
							20	163	143	131	210	185	169
							40	156	133	123	202	172	159
							60	148	128	119	191	165	154
Hardie®Plank	5/16	6 1/4	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	146	132	120	188	171	155
							20	146	128	117	188	166	151
							40	140	119	110	180	154	142
							60	132	115	106	171	148	137
Hardie®Plank	5/16	7 1/4	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	133	121	110	172	156	142
							20	133	117	107	172	151	138
							40	128	109	101	165	141	130
							60	121	105	97	156	135	126
Hardie®Plank	5/16	7 1/2	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	130	118	107	168	152	138
							20	130	115	105	168	148	135
							40	125	107	99	161	138	127
							60	118	102	95	152	132	123
Hardie®Plank	5/16	8	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	125	114	103	162	147	133
							20	125	110	101	162	143	130
							40	120	103	95	155	133	122
							60	114	99	91	147	127	118

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	8 1/4	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	123	112	101	159	144	131
							20	123	108	99	159	140	128
							40	118	101	93	152	130	120
							60	112	97	90	144	125	116
Hardie®Plank	5/16	9 1/4	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	115	104	95	148	135	122
							20	115	101	93	148	131	119
							40	110	94	87	142	122	112
							60	104	90	-	135	117	-
Hardie®Plank	5/16	9 1/2	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	113	103	93	146	133	121
							20	113	100	91	146	129	118
							40	109	93	86	140	120	111
							60	103	89	-	133	115	107
Hardie®Plank	5/16	5 1/4	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	133	121	110	172	156	141
							20	133	117	107	172	151	138
							40	128	109	101	165	141	130
							60	121	105	97	156	135	125
Hardie®Plank	5/16	6 1/4	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	119	108	98	153	139	126
							20	119	105	96	153	135	124
							40	114	98	90	147	126	116
							60	108	94	87	139	121	112
Hardie®Plank	5/16	7 1/4	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	108	98	89	140	127	115
							20	108	96	87	140	123	113
							40	104	89	-	134	115	-
							60	98	85	-	127	110	-
Hardie®Plank	5/16	7 1/2	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	106	96	88	137	125	113
							20	106	94	86	137	121	110
							40	102	87	-	132	113	-
							60	96	-	-	125	108	-
Hardie®Plank	5/16	8	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	102	93	-	132	120	-
							20	102	90	-	132	116	-
							40	98	-	-	127	-	-
							60	93	-	-	120	-	-
Hardie®Plank	5/16	8 1/4	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	100	91	-	129	117	-
							20	100	88	-	129	114	-
							40	96	-	-	124	-	-
							60	91	-	-	117	-	-
Hardie®Plank	5/16	9 1/4	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	94	85	-	121	110	-
							20	94	-	-	121	107	-
							40	90	-	-	116	-	-
							60	85	-	-	110	-	-

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	9 1/2	No. 11 gauge, 1.25" long roofing nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	93	-	-	119	-	-
							20	93	-	-	119	-	-
							40	89	-	-	115	-	-
							60	-	-	-	-	-	-
Hardie®Plank	5/16	5 1/4	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	170	170	166	219	219	214
							20	170	170	162	219	219	209
							40	170	165	153	219	213	197
							60	170	158	147	219	205	190
Hardie®Plank	5/16	6 1/4	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	170	164	149	219	211	192
							20	170	159	145	219	205	187
							40	170	148	137	219	191	176
							60	164	142	132	211	183	170
Hardie®Plank	5/16	7 1/4	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	164	149	136	212	193	175
							20	164	145	132	212	187	171
							40	158	135	125	204	174	161
							60	149	129	120	193	167	155
Hardie®Plank	5/16	7 1/2	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	161	146	133	208	189	172
							20	161	142	130	208	183	167
							40	155	132	122	200	171	158
							60	146	127	118	189	164	152
Hardie®Plank	5/16	8	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	155	141	128	200	182	165
							20	155	137	125	200	176	161
							40	149	127	117	192	164	152
							60	141	122	113	182	157	146
Hardie®Plank	5/16	8 1/4	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	152	138	126	197	178	162
							20	152	134	123	197	173	158
							40	146	125	115	189	161	149
							60	138	120	111	178	155	144
Hardie®Plank	5/16	9 1/4	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	142	129	117	184	167	152
							20	142	126	115	184	162	148
							40	137	117	108	176	151	139
							60	129	112	104	167	145	134
Hardie®Plank	5/16	9 1/2	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	16	0-15	140	127	116	181	164	149
							20	140	124	113	181	160	146
							40	135	115	106	174	148	137
							60	127	110	102	164	142	132
Hardie®Plank	5/16	5 1/4	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	164	149	136	212	193	175
							20	164	145	132	212	187	171
							40	158	135	125	204	147	161
							60	149	129	120	193	167	155

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	6 1/4	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	147	134	121	190	172	157
							20	147	130	118	190	168	153
							40	141	121	111	182	156	144
							60	134	116	108	172	150	139
Hardie®Plank	5/16	7 1/4	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	134	122	111	173	157	143
							20	134	118	108	173	153	140
							40	129	110	102	166	142	131
							60	122	106	98	157	136	127
Hardie®Plank	5/16	7 1/2	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	132	119	109	170	154	140
							20	132	116	106	170	150	137
							40	126	108	100	163	139	129
							60	119	104	96	154	134	124
Hardie®Plank	5/16	8	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	127	115	104	163	148	135
							20	127	112	102	163	144	132
							40	122	104	96	157	134	124
							60	115	100	93	148	129	120
Hardie®Plank	5/16	8 1/4	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	124	113	102	161	146	132
							20	124	110	100	161	142	129
							40	119	102	94	154	132	122
							60	113	98	91	146	126	117
Hardie®Plank	5/16	9 1/4	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	116	106	96	150	136	124
							20	116	103	94	150	133	121
							40	112	95	88	144	123	114
							60	106	92	85	136	118	110
Hardie®Plank	5/16	9 1/2	No. 11 gauge, 1.75 inch long roofing Nail	Blind Nailed Through top edge of plank	2X4 wood	24	0-15	114	104	94	148	134	122
							20	114	101	92	148	130	119
							40	110	94	87	142	121	112
							60	104	90	-	134	116	-
Hardie®Plank	5/16	4	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	168	137	217	217	177
							20	168	158	137	217	204	177
							40	168	147	126	217	190	163
							60	168	137	121	217	177	156
Hardie®Plank	5/16	6	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	168	137	217	217	177
							20	168	158	137	217	204	177
							40	168	147	126	217	190	163
							60	168	137	121	217	177	156
Hardie®Plank	5/16	6 1/4	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	158	142	217	204	183
							20	168	158	131	217	204	169
							40	168	147	126	217	190	163
							60	158	137	121	204	177	156

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	7 1/4 or 7 1/2	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	152	126	217	196	163
							20	168	147	116	217	190	150
							40	168	137	116	217	177	150
							60	158	126	110	204	163	142
Hardie®Plank	5/16	8	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	147	116	217	190	150
							20	168	137	116	217	177	150
							40	158	126	105	204	163	136
							60	147	121	105	190	156	136
Hardie®Plank	5/16	8 1/4	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	16	0-15	168	142	121	217	183	156
							20	168	137	116	217	177	150
							40	158	126	110	204	163	142
							60	147	116	105	190	150	136
Hardie®Plank	5/16	9 1/4 or 9 1/2	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. X 3.62" x 1.375" Metal C-stud	16	0-15	168	137	116	217	177	150
							20	168	126	105	217	163	136
							40	158	116	105	204	150	136
							60	137	110	100	177	142	129
Hardie®Plank	5/16	4	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	137	116	207	177	150
							20	160	131	110	207	169	142
							40	152	121	105	196	156	136
							60	145	116	100	187	150	129
Hardie®Plank	5/16	6	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	137	116	207	177	150
							20	160	131	110	207	169	142
							40	152	121	105	196	156	136
							60	145	116	100	187	150	129
Hardie®Plank	5/16	6 1/4	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	137	116	207	177	150
							20	160	131	105	207	169	136
							40	154	121	105	199	156	136
							60	145	116	100	187	150	129
Hardie®Plank	5/16	7 1/4 or 7 1/2	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	126	105	207	163	136
							20	160	116	100	207	150	129
							40	147	105	89	190	136	115
							60	137	89	89	177	115	115
Hardie®Plank	5/16	8	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	121	100	207	156	129
							20	158	116	100	204	150	129
							40	142	105	89	183	136	115
							60	131	100	89	169	129	115
Hardie®Plank	5/16	8 1/4	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	160	121	100	207	156	129
							20	158	116	100	204	150	129
							40	142	105	89	183	136	115
							60	126	100	89	163	129	115

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	9 1/4 or 9 1/2	No. 8 x 1 1/4 in. long x 0.375 in. HD ribbed waferhead screws	Blind Screwed	Min. No. 20 ga. x 3.62" x 1.375" Metal C-stud	24	0-15	158	116	95	204	150	123
							20	147	105	89	190	136	115
							40	131	95	85	169	123	110
							60	121	89	85	156	115	110
Hardie®Plank	5/16	5 1/4	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	16	0-15	141	128	116	182	165	150
							20	141	124	114	182	160	147
							40	135	116	107	174	150	138
							60	128	111	103	165	143	133
Hardie®Plank	5/16	6 1/4	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	16	0-15	126	114	104	163	147	134
							20	126	111	102	163	143	132
							40	121	103	96	156	133	124
							60	114	99	92	147	128	119
Hardie®Plank	5/16	7 1/4	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	16	0-15	115	104	95	148	134	123
							20	115	102	93	148	132	120
							40	110	94	87	142	121	112
							60	104	91	-	134	117	-
Hardie®Plank	5/16	7 1/2	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	16	0-15	113	102	93	146	132	120
							20	113	99	91	146	128	117
							40	108	93	85	139	120	110
							60	102	89	-	132	115	-
Hardie®Plank	5/16	8	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	16	0-15	109	99	90	141	128	116
							20	109	96	87	141	124	112
							40	104	89	-	134	115	-
							60	99	85	-	128	110	-
Hardie®Plank	5/16	8 1/4	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	16	0-15	107	97	88	138	125	114
							20	107	94	86	138	121	111
							40	102	88	-	132	114	-
							60	97	-	-	125	-	-
Hardie®Plank	5/16	9 1/4	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	16	0-15	100	90	-	129	116	-
							20	100	88	-	129	114	-
							40	96	-	-	124	-	-
							60	90	-	-	116	-	-
Hardie®Plank	5/16	9 1/2	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	16	0-15	98	89	-	127	115	-
							20	98	87	-	127	112	-
							40	94	-	-	121	-	-
							60	89	-	-	115	-	-

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	5 1/4	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	24	0-15	115	104	95	148	134	123
							20	115	102	93	148	132	120
							40	110	94	87	142	121	112
							60	104	91	-	134	117	-
Hardie®Plank	5/16	6 1/4	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	24	0-15	103	93	-	133	120	-
							20	103	91	-	133	117	-
							40	99	-	-	128	-	-
							60	93	-	-	120	-	-
Hardie®Plank	5/16	7 1/4	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	24	0-15	94	85	-	121	110	-
							20	94	-	-	121	-	-
							40	90	-	-	116	-	-
							60	85	-	-	110	-	-
Hardie®Plank	5/16	7 1/2	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	24	0-15	92	-	-	119	-	-
							20	92	-	-	119	-	-
							40	88	-	-	114	-	-
							60	-	-	-	-	-	-
Hardie®Plank	5/16	8	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	24	0-15	89	-	-	115	-	-
							20	89	-	-	115	-	-
							40	85	-	-	110	-	-
							60	-	-	-	-	-	-
Hardie®Plank	5/16	8 1/4	6d-2 inch long X 0.092 inch shank X 0.222 inch head diameter siding nail	Blind Nailed Through top edge of plank	2 x 4 wood	24	0-15	87	-	-	112	-	-
							20	87	-	-	112	-	-
							40	-	-	-	-	-	-
							60	-	-	-	-	-	-
Hardie®Plank	5/16	≤8 1/4	0.092" shank X 0.222" HD X 2.5" long galv. nail	face nailed through plank overlap	2 x 4 wood	16	0-15	153	138	126	198	178	163
							20	153	135	123	198	174	159
							40	146	125	116	188	161	150
							60	138	120	112	178	155	145
Hardie®Plank	5/16	9 1/4	0.092" shank X 0.222" HD X 2.5" long galv. nail	face nailed through plank overlap	2 x 4 wood	16	0-15	143	130	118	185	168	152
							20	143	126	115	185	163	148
							40	137	117	108	177	151	139
							60	130	113	105	168	146	136

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	9 1/2	0.092" shank X 0.222" HD X 2.5" long galv. nail	face nailed through plank overlap	2 x 4 wood	16	0-15	141	128	116	182	165	150
							20	141	124	113	182	160	146
							40	135	116	107	174	150	138
							60	128	111	103	165	143	133
Hardie®Plank	5/16	12	0.092" shank X 0.222" HD X 2.5" long galv. nail	face nailed through plank overlap	2 x 4 wood	16	0-15	123	112	101	159	144	131
							20	123	108	99	159	140	128
							40	118	101	934	152	130	120
							60	112	97	90	144	125	116
Hardie®Plank	5/16	≤8 1/4	8d ring shank box nail, 0.113" shank X 0.260" HD X 2.375" L	face nailed through plank overlap	2 x 4 wood[6]	16	0-15	203	184	167	262	238	216
							20	203	179	163	262	231	210
							40	194	166	153	250	214	198
							60	184	159	148	238	205	191
Hardie®Plank	5/16	≤8 1/4	8d ring shank box nail, 0.113" shank X 0.260" HD X 2.375" L	face nailed through plank overlap	2 x 4 wood[6]	24	0-15	166	151	137	214	195	177
							20	166	146	134	214	188	173
							40	159	136	126	205	176	163
							60	151	131	121	195	169	156
Hardie®Plank	5/16	≤8 1/4	0.092" shank X 0.222" HD X 2" long galv. nail	face nailed through plank overlap	2 x 4 wood[6]	16	0-15	151	137	125	195	177	161
							20	151	133	122	195	172	158
							40	145	124	115	187	160	148
							60	137	119	111	177	154	143
Hardie®Plank	5/16	≤8 1/4	0.092" shank X 0.222" HD X 2.5" long galv. nail	face nailed through plank overlap	2 x 4 wood[6]	16	0-15	187	170	154	241	219	199
							20	187	165	151	241	213	195
							40	180	154	142	232	199	183
							60	170	147	137	219	190	177
Hardie®Plank	5/16	5 1/4	No. 8 X 1-5/8" long X 0.375" HD ribbed wafer head screw[5]	blind screw through top edge of plank at 12 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	207	188	171	267	243	221
							20	207	183	167	267	236	216
							40	199	170	157	257	219	203
							60	188	163	152	243	210	196
Hardie®Plank	5/16	6 1/4	No. 8 X 1-5/8" long X 0.375" HD ribbed wafer head screw[5]	blind screw through top edge of plank at 12 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	183	166	151	236	214	195
							20	183	161	147	236	208	190
							40	176	150	139	227	194	179
							60	166	144	134	214	186	173
Hardie®Plank	5/16	7 1/4	No. 8 X 1-5/8" long X 0.375" HD ribbed wafer head screw[5]	blind screw through top edge of plank at 12 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	165	150	136	213	194	176
							20	165	145	133	213	187	172
							40	158	135	125	204	174	161
							60	150	130	120	194	168	155
Hardie®Plank	5/16	8 1/4	No. 8 X 1-5/8" long X 0.375" HD ribbed wafer head screw[5]	blind screw through top edge of plank at 12 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	150	136	124	194	176	160
							20	150	133	121	194	172	156
							40	144	123	114	186	159	147
							60	136	118	110	176	152	142

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	9 1/4	No. 8 X 1-5/8" long X 0.375" HD ribbed wafer head screw[5]	blind screw through top edge of plank at 12 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	139	126	114	179	163	147
							20	139	122	112	179	158	145
							40	133	114	105	172	147	136
							60	126	109	101	163	141	130
Hardie®Plank	5/16	≤8 1/4	0.090" shank X 0.215" HD X 1.5" long ring shank nail[5]	blind nail through top edge of plank at 8 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	145	132	120	187	170	155
							20	145	128	117	187	165	151
							40	139	119	110	179	154	142
							60	132	114	106	170	147	137
Hardie®Plank	5/16	≤8 1/4	0.090" shank X 0.215" HD X 1.5" long ring shank nail[5]	blind nail through top edge of plank at 6 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	166	150	137	214	194	177
							20	166	146	133	214	188	172
							40	159	136	125	205	176	161
							60	150	130	121	194	168	156
Hardie®Plank	5/16	≤ 9 1/2	0.091" shank, 0.221" HD, 1.5" long ring shank nail[5]	Face Nailed through the overlap at 12" o.c.	Attached to 7/16" wood7/16 structural panel sheathing only	7/16" WSP attached per code	0-15	100	91	-	129	117	-
							20	100	88	-	129	114	-
							40	96	-	-	124	-	-
							60	91	-	-	117	-	-
Hardie®Plank	5/16	5 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 12 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	161	146	132	207	188	171
							20	161	142	129	207	183	167
							40	154	132	122	199	170	157
							60	146	126	117	188	163	152
Hardie®Plank	5/16	5 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 16 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	146	133	120	189	171	156
							20	146	129	118	189	166	152
							40	140	120	111	181	155	143
							60	133	115	107	171	148	138
Hardie®Plank	5/16	5 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 20 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	137	124	113	176	160	145
							20	137	120	110	176	156	142
							40	131	112	103	169	145	134
							60	124	108	100	160	139	129
Hardie®Plank	5/16	5 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 24 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	130	118	107	168	152	138
							20	130	115	105	168	148	135
							40	125	107	99	161	138	127
							60	118	102	95	152	132	123

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	6 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 12 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	148	135	122	192	174	158
							20	148	131	119	192	169	154
							40	142	122	112	184	157	145
							60	135	117	108	174	151	140
Hardie®Plank	5/16	6 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 16 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	134	122	111	173	157	143
							20	134	118	108	173	153	139
							40	129	110	102	166	142	131
							60	122	106	98	157	136	127
Hardie®Plank	5/16	6 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 20 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	125	113	103	161	146	133
							20	125	110	100	161	142	130
							40	120	102	94	154	132	122
							60	113	98	91	146	127	118
Hardie®Plank	5/16	6 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 24 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	118	107	97	152	138	126
							20	118	104	95	152	134	123
							40	113	97	89	146	125	115
							60	107	93	86	138	120	111
Hardie®Plank	5/16	7 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 12 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	140	127	115	180	164	149
							20	140	123	113	180	159	145
							40	134	115	106	173	148	137
							60	127	110	102	164	142	132
Hardie®Plank	5/16	7 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 16 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	125	114	103	162	147	134
							20	125	111	101	162	143	130
							40	120	103	95	155	133	123
							60	114	99	92	147	128	118
Hardie®Plank	5/16	7 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 20 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	116	105	96	150	136	123
							20	116	102	93	150	132	121
							40	111	95	88	144	123	113
							60	105	91	-	136	118	-
Hardie®Plank	5/16	7 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 24 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	109	99	90	141	128	116
							20	109	96	88	141	125	114
							40	105	90	-	136	116	-
							60	99	86	-	128	111	-
Hardie®Plank	5/16	8 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 12 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	133	121	110	172	156	142
							20	133	117	107	172	152	138
							40	128	109	101	165	141	130
							60	121	105	97	156	135	126

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Hardie®Plank	5/16	8 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 16 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	119	108	98	154	139	127
							20	119	105	96	154	136	124
							40	114	98	90	147	126	116
							60	108	94	87	139	121	112
Hardie®Plank	5/16	8 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 20 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	110	99	90	141	128	117
							20	110	97	88	141	125	114
							40	105	90	-	136	116	-
							60	99	86	-	128	111	-
Hardie®Plank	5/16	8 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 24 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	103	93	-	133	120	-
							20	103	91	-	133	117	-
							40	99	-	-	127	-	-
							60	93	-	-	120	-	-
Hardie®Plank	5/16	9 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 12 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	128	116	106	165	150	136
							20	128	113	103	165	146	133
							40	123	105	97	159	136	125
							60	116	101	94	150	130	121
Hardie®Plank	5/16	9 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 16 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	114	103	94	147	133	121
							20	114	100	92	147	130	118
							40	109	93	86	141	121	111
							60	103	90	-	133	116	-
Hardie®Plank	5/16	9 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 20 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	104	95	86	135	122	111
							20	104	92	-	135	119	-
							40	100	86	-	129	111	-
							60	95	-	-	122	-	-
Hardie®Plank	5/16	9 1/4	HardieNail Studless Siding Fastener (TetraGrip), .117" x 1.125" x .3" (PART #650867 or #650964)	blind nail through top edge of plank at 24 in. on center	Attached to 7/16" wood structural panel sheathing only	7/16" WSP attached per code	0-15	98	89	-	126	114	-
							20	98	86	-	126	111	-
							40	94	-	-	121	-	-
							60	89	-	-	114	-	-

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph) (Continued)

								2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[3,9,12,15])			2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[10,11]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[13,14])		
PRODUCT	PRODUCT DIMENSION (IN.)		FASTENER TYPE[4,16]	FASTENING METHOD[2]	FRAME TYPE[1,8]	STUD SPACING (IN.)	BUILDING HEIGHT (FT.)	EXPOSURE CATEGORY			EXPOSURE CATEGORY		
	THICK.	WIDTH						B	C	D	B	C	D
Artisan® Lap	5/8	7 1/4	6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail	blind nail through top edge of plank	2X4 Wood[7]	16	0-15	141	128	116	182	165	150
							20	141	124	114	182	161	147
							40	135	116	107	175	149	138
							60	128	111	103	165	143	133
Artisan® Lap	5/8	8 1/4	6d 0.092" shank X 0.219" HD X 2.0" long galv. Nail	blind nail through top edge of plank	2X4 Wood[7]	16	0-15	130	118	108	168	153	139
							20	130	115	105	168	149	136
							40	125	107	99	162	138	128
							60	118	103	95	153	133	123
Artisan® Lap	5/8	7 1/4	6d 0.092" shank X 0.219" HD X 2.0" long galv. nail	blind nail through top edge of plank	2X4 Wood[7]	24	0-15	115	105	95	149	135	123
							20	115	102	93	149	131	120
							40	111	94	87	143	122	113
							60	105	91	-	135	117	-
Artisan® Lap	5/8	8 1/4	6d 0.092" shank X 0.219" HD X 2.0" long galv. nail	blind nail through top edge of plank	2X4 Wood[7]	24	0-15	107	97	88	138	125	113
							20	107	94	86	138	121	111
							40	102	87	-	132	113	-
							60	97	-	-	125	-	-
Artisan® Lap	5/8	7 1/4	8d 0.092" shank X 0.219" HD X 2.5" long galv. Nail	blind nail through top edge of plank	2X4 Wood[7]	16	0-15	165	149	136	213	193	175
							20	165	145	133	213	188	171
							40	158	135	125	204	174	161
							60	149	130	120	193	167	155
Artisan® Lap	5/8	7 1/4	8d 0.092" shank X 0.219" HD X 2.5" long galv. nail	blind nail through top edge of plank	2X4 Wood[7]	24	0-15	135	122	111	174	158	143
							20	135	119	108	174	153	140
							40	129	110	102	167	142	132
							60	122	106	98	158	137	127
Artisan® Lap	5/8	8 1/4	8d 0.092" shank X 0.219" HD X 2.5" long galv. nail	blind nail through top edge of plank	2X4 Wood[7]	24	0-15	117	106	97	151	137	125
							20	117	103	94	151	134	122
							40	113	96	89	145	124	115
							60	106	92	86	137	119	111

For **SI:** 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

[1]Values are for species of wood having a specific gravity of 0.42 or greater, unless otherwise noted.
[2]Face = Fastened through the overlapping plank. Blind = Fastened through the top edge of single plank.
[3]Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: I = 1.0, K_{zt} = 1, K_d = 0.85, GC_{pi} = 0.18., GC_p=-1.4.
[4]ET&F pin fasteners have knurled shanks.
[5]Fastener length shall be sufficient to penetrate back side of the minimum 7/16" WSP sheathing by at least ¼" for nails or 3 full threads for screws.
[6]Values are for species of wood having a specific gravity of 0.50 or greater.
[7]Values are for species of wood having a specific gravity of 0.40 or greater.
[8]Metal studs must be minimum Fy = 33 ksi.
[9]V_{asd} = nominal design wind speed.
[10]V_{ult} = ultimate design wind speed.
[11]Wind speed design assumptions per Section 30.4, of ASCE 7-10: Kzt = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[12]2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd}=V_{ult}\sqrt{0.6}$
[13]V = basic design wind speed
[14]Wind speed design assumptions per Section 30.3, of ASCE 7-16: K_{zt} = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[15]2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V\sqrt{0.6}$
[16]Smooth-shank stainless steel nails are outside of the scope of this report.

TABLE 5—(V_{asd} 100 MPH; V_{ult} / V 129 MPH)[3]
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL[1,2,4,5]

Building Height (feet)	≤6 1/2-inch wide			7 1/4- & 7 1/2-inch wide			8- & 8 1/4-inch wide			9 1/4- & 9 1/2-inch wide		
	Exposure			Exposure			Exposure			Exposure		
	B	C	D	B	C	D	B	C	D	B	C	D
0-15	24	24	24	24	24	24	24	24	21	24	23	19
20	24	24	24	24	24	23	24	24	20	24	21	18
30	24	24	24	24	24	21	24	22	19	24	20	17
40	24	24	23	24	24	20	24	21	18	24	19	16
50	24	24	22	24	22	19	24	20	17	24	18	15
60	24	24	22	24	22	19	24	19	17	23	17	15

For **SI:** 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

[1]Hardie®Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter. = 0.30 in., shank diameter. = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

[2]Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).

[3] Maximum nominal design wind speed (V_{asd}) shall be 100 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 129 mph.

[4]Interpolation of spacing to address building height and other plank widths is permitted.

[5]The lap conceals the fasteners of the previous course (Blind Nailed).

TABLE 6—(V_{asd} 110 MPH; V_{ult} / V 142 MPH)[3]
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL[1,2,4,5]

Building Height (feet)	≤6 1/2-inch wide			7 1/4- & 7 1/2-inch wide			8- & 8 1/4-inch wide			9 1/4- & 9 1/2-inch wide		
	Exposure			Exposure			Exposure			Exposure		
	B	C	D	B	C	D	B	C	D	B	C	D
0-15	24	24	22	24	24	19	24	21	17	23	19	15
20	24	24	21	24	22	18	24	20	16	23	18	15
30	24	24	20	24	20	17	24	18	15	23	16	14
40	24	22	19	24	19	16	24	17	15	21	15	13
50	24	21	18	24	18	16	22	16	14	20	14	12
60	24	20	18	23	18	15	21	16	14	19	14	12

For **SI:** 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

[1]Hardie®Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter. = 0.30 in., shank diameter. = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

[2]Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).

[3]Maximum nominal design wind speed (V_{asd}) shall be 110 mph Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 142 mph.

[4]Interpolation to address building height and other plank widths is permitted.

[5]The lap conceals the fasteners of the previous course (Blind Nailed).

TABLE 7—(V_{asd} 120 MPH; V_{ult} / V 155 MPH)[3]
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL[1,3,4]

Building Height (feet)	≤6 1/2-inch wide			7 1/4- & 7 1/2-inch wide			8- & 8 1/4-inch wide			9 1/4- & 9 1/2-inch wide		
	Exposure			Exposure			Exposure			Exposure		
	B	C	D	B	C	D	B	C	D	B	C	D
0-15	24	23	19	24	20	17	21	18	15	19	16	13
20	24	22	18	24	19	16	21	17	14	19	15	12
30	24	20	17	24	17	15	21	15	13	19	14	12
40	24	19	16	22	16	14	20	14	12	18	13	11
50	24	18	16	21	16	13	18	14	12	17	12	11
60	23	17	15	20	15	13	18	13	11	16	12	10

For **SI:** 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

[1]Hardie®Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter. = 0.30 in., shank diameter. = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.15 in., length = 1.3 in.). Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).

[2]Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).

[3]Maximum nominal design wind speed (V_{asd}) shall be 120 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 155 mph.

[4]Interpolation to address building height and other plank widths is permitted.

[5]The lap conceals the fasteners of the previous course (Blind Nailed).

TABLE 8—(V_{asd} 130 MPH; V_{ult} / V 168 MPH)[3]
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL[1,2,4,5]

Building Height (feet)	≤6¹/₂-inch wide			7¹/₄- & 7¹/₂-inch wide			8- & 8¹/₄-inch wide			9¹/₄- & 9¹/₂-inch wide		
	Exposure			Exposure			Exposure			Exposure		
	B	C	D	B	C	D	B	C	D	B	C	D
0-15	24	20	16	21	17	14	18	15	12	16	14	11
20	24	19	15	21	16	13	18	14	12	16	13	11
30	24	17	14	21	15	12	18	13	11	16	12	10
40	22	16	14	19	14	12	17	12	11	15	11	9
50	21	15	13	18	13	11	16	12	10	14	11	9
60	20	15	13	17	13	11	15	11	10	13	10	9

For **SI:** 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

[1]Hardie®Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head dia. = 0.30 in., shank dia. = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).
[2]Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).
[3]Maximum nominal design wind speed shall be 130 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 168 mph.
[4]Interpolation to address building height and other plank widths is permitted.
[5]The lap conceals the fasteners of the previous course (Blind Nailed).

TABLE 9—(V_{asd} 140 MPH; V_{ult}/ V 181 MPH)[3]
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL[1,2,4,5]

Building Height (feet)	≤6¹/₂-inch wide			7¹/₄- & 7¹/₂-inch wide			8- & 8¹/₄-inch wide			9¹/₄- & 9¹/₂-inch wide		
	Exposure			Exposure			Exposure			Exposure		
	B	C	D	B	C	D	B	C	D	B	C	D
0-15	21	17	14	18	15	12	16	13	11	14	12	10
20	21	16	13	18	14	12	16	12	10	14	11	9
30	21	15	12	18	13	11	16	11	10	14	10	9
40	19	14	12	16	12	10	15	11	9	13	9	8
50	18	13	11	15	11	10	14	10	9	12	9	8
60	17	13	11	15	11	10	13	10	9	12	9	8

For **SI:** 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

[1]Hardie®Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter. = 0.30 in., shank diameter. = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.15 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).
[2]Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).
[3]Maximum nominal design wind speed shall be 140 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 181 mph.
[4]Interpolation to address building height and other plank widths is permitted.
[5]The lap conceals the fasteners of the previous course (Blind Nailed).

TABLE 10—(V_{asd} 150 MPH; V_{ult} / V 194 MPH)[3]
ALLOWABLE FASTENER SPACING (IN.)
JAMES HARDIE LAP SIDING FASTENED TO ASTM C90 CONCRETE MASONRY UNIT WALL[1,2,4,5]

Building Height (feet)	≤6¹/₂-inch wide			7¹/₄- & 7¹/₂-inch wide			8- & 8¹/₄-inch wide			9¹/₄- & 9¹/₂-inch wide		
	Exposure			Exposure			Exposure			Exposure		
	B	C	D	B	C	D	B	C	D	B	C	D
0-15	18	15	12	16	13	11	14	11	9	12	10	8
20	18	14	12	16	12	10	14	11	9	12	10	8
30	18	13	11	16	11	9	14	10	8	12	9	7
40	16	12	10	14	10	9	13	9	8	11	8	7
50	15	12	10	13	10	9	12	9	8	11	8	7
60	15	11	10	13	10	8	11	8	7	10	8	7

For **SI:** 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s.

[1]Hardie®Plank Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head diameter. = 0.30 in., shank diameter. = 0.144 in., length = 1.25-in. long), Max System block Nail (CP-C 832 W7-ICC, head dia. = 0.30 in., shank dia. = 0.145 in., length = 1.3 in.), Aerosmith SurePin block nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.25 in.), or Jaaco Nail Pro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.25 in.).
[2]Artisan® Lap Siding fasteners must be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-150, head diameter. = 0.30 in., shank diameter. = 0.144 in., length = 1.5-in. long), Max System block Nail (CP-C 838 W7-ICC, head diameter. = 0.30 in., shank diameter. = 0.145 in., length = 1.5 in.), Aerosmith SurePin block Nail (head diameter = 0.30 in., shank diameter = 0.144 in., length = 1.5 in.), or Jaaco NailPro (NP145S head diameter = 0.30 in., shank diameter = 0.145 in., length = 1.5 in.).
[3]Maximum nominal design wind speed shall be 150 mph. Maximum ultimate design wind speed (V_{ult}) and basic design wind speed (V) shall be 194 mph.
[4]Interpolation to address building height and other plank widths is permitted.
[5]The lap conceals the fasteners of the previous course (Blind Nailed).

TABLE 11—ALLOWABLE BASIC WIND SPEEDS (mph) FOR HARDIE®SHINGLE INDIVIDUAL SHINGLE EXTERIOR WALL FINISH

				2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[1,2,5,8])		2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[3,4]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[6,7])	
Sheathing Type	Siding Fastener Type	Weather Exposure and Fastener Location	Height of Building (feet)	Exposure Category		Exposure Category	
				B	C	B	C
Minimum 15/32 inch thick plywood complying with DOC PS 1-95	Min. 0.121 in. shank x 0.371 in. HD x 1 1/4 in. long corrosion resistant roofing Nail	8 inch exposure 2 roofing nails 9 inches from butt edge	0-15	126	110	163	142
			20	126	105	163	136
			40	126	95	163	123
			60	126	89	163	115
		7 inch exposure 2 roofing nails 8 inches from butt edge	0-15	126	126	163	163
			20	126	121	163	156
			40	126	110	163	142
			60	126	105	163	136
		6 inch exposure 2 roofing nails 7 inches from butt edge	0-15	126	126	163	163
			20	126	126	163	163
			40	126	121	163	156
			60	126	116	163	150
		5 inch exposure 2 roofing nails 6 inches from butt edge	0-15	126	126	163	163
			20	126	126	163	163
			40	126	121	163	156
			60	126	116	163	150

For **SI:** 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.44 m/s.

[1]Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: I = 1.0, Kzt = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[2]V_{asd} = nominal design wind speed.
[3]V_{ult} = ultimate design wind speed.
[4]Wind speed design assumptions per Section 30.4, of ASCE 7-10: Kzt = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[5] 2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V_{ult}\sqrt{0.6}$
[6] V = basic design wind speed
[7] Wind speed design assumptions per Section 30.3, of ASCE 7-16: K_{zt} = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[8] 2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V\sqrt{0.6}$
[9] Smooth-shank stainless steel nails are outside of the scope of this report

TABLE 12—ALLOWABLE BASIC WIND SPEEDS (MPH) FOR HARDIE®SHINGLE INDIVIDUAL SHINGLE EXTERIOR WALL FINISH

				2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[1,2,5,8])		2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[3,4]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[6,7])	
Sheathing Type	Siding Fastener Type	Weather Exposure and Fastener Location	Height of Building (feet)	Exposure Category		Exposure Category	
				B	C	B	C
Minimum 7/16 inch thick OSB sheathing complying with DOC-PS 2-95	Min. 0.091 in. shank x 0.221 in. HD x 1 1/2 in. long corrosion resistant siding Nail	8 inch exposure 2 siding nails 9 inches from butt edge	0-15	126	89	163	115
			20	126	89	163	115
			40	105	85	136	110
			60	100		129	
		7 inch exposure 2 siding nails 8 inches from butt edge	0-15	126	105	163	136
			20	126	100	163	129
			40	121	95	156	123
			60	116	89	150	115
		6 inch exposure 2 siding nails 7 inches from butt edge	0-15	126	116	163	150
			20	126	110	163	142
			40	126	105	163	136
			60	126	95	163	123
		5 inch exposure 2 siding nails 6 inches from butt edge	0-15	126	116	163	150
			20	126	110	163	142
			40	126	105	163	136
			60	126	95	163	123

For **SI:** 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.44 m/s.

[1]Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: I = 1.0, Kzt = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[2]V_{asd} = nominal design wind speed.
[3]V_{ult} = ultimate design wind speed.
[4]Wind speed design assumptions per Section 30.4, of ASCE 7-10: Kzt = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[5] 2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V_{ult}\sqrt{0.6}$
[6] V = basic design wind speed
[7] Wind speed design assumptions per Section 30.3, of ASCE 7-16: K_{zt} = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[8] 2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V\sqrt{0.6}$
[9] Smooth-shank stainless steel nails are outside of the scope of this report

TABLE 13—ALLOWABLE BASIC WIND SPEEDS (MPH) FOR HARDIE®SHINGLE INDIVIDUAL SHINGLE EXTERIOR WALL FINISH

				2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, V_{asd}[1,2,5,8])		2015 IBC/IRC and 2012 IBC (Ultimate Design Wind Speed, V_{ult}[3,4]), 2021 and 2018 IBC/IRC (Basic Design Wind Speed, V[6,7])	
Sheathing Type	Siding Fastener Type	Weather Exposure and Fastener Location	Height of Building (feet)	Exposure Category		Exposure Category	
				B	C	B	C
Minimum 7/16 inch thick OSB sheathing complying with DOC-PS 2-95	Min. 0.091 in. shank x 0.221 in. HD x 1 1/2 in. long corrosion resistant siding Nail	8 inch exposure, 3 nails for shingles greater than 8 in. wide, 2 nails for shingles 8 in. wide and narrower, 9 inches from drip edge	0-15	116	116	150	150
			20	110	110	142	142
			40	100	100	129	129
			60	95	95	123	123
		7 inch exposure 3 nails for shingles greater than 8 in. wide, 2 nails for shingles 8 in. wide and narrower, 8 inches from drip edge	0-15	126	126	163	163
			20	121	121	156	156
			40	110	110	142	142
			60	105	105	136	136
		6 inch exposure 3 nails for shingles greater than 8 in. wide, 2 nails for shingles 8 in. wide and narrower, 7 inches from drip edge	0-15	126	126	163	163
			20	126	126	163	163
			40	126	126	163	163
			60	121	121	156	156
		5 inch exposure 3 nails for shingles greater than 8 in. wide, 2 nails for shingles 8 in. wide and narrower, 6 inches from drip edge	0-15	126	126	163	163
			20	126	126	163	163
			40	126	126	163	163
			60	121	121	156	156

For **SI:** 1 foot = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.44 m/s.

[1]Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: I = 1.0, Kzt = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[2]V_{asd} = nominal design wind speed.
[3]V_{ult} = ultimate design wind speed.
[4]Wind speed design assumptions per Section 30.4, of ASCE 7-10: Kzt = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[5] 2015 and 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V_{ult}\sqrt{0.6}$
[6] V = basic design wind speed
[7] Wind speed design assumptions per Section 30.3, of ASCE 7-16: K_{zt} = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.
[8] 2021 IBC Section 1609.3.1, Eqn. 16-17 and 2018 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V\sqrt{0.6}$
[9] Smooth-shank stainless steel nails are outside of the scope of this report

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 16 00—Sheathing

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

REPORT HOLDER:

JAMES HARDIE BUILDING PRODUCTS, INC.

EVALUATION SUBJECT:

HARDIE®SHINGLE PANELS, HARDIE®PLANK LAP SIDING, ARTISAN® LAP SIDING, AND HARDIE®SHINGLE INDIVIDUAL SHINGLES

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Hardie®Shingle panels, Hardie®Plank lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles, described in ICC-ES evaluation report ESR-2290, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 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 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 Hardie®Shingle panels, Hardie®Plank lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles described in Sections 2.0 through 7.0 of the evaluation report ESR-2290, comply 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 Chapters 16 and 17, as applicable.

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 Hardie®Shingle panels, Hardie®Plank lap siding, Artisan® Lap Siding, and Hardie®Shingle individual shingles, described in Sections 2.0 through 7.0 of the evaluation report ESR-2290, comply with CRC Chapter 7, provided the design and installation are in accordance with the 2021 *International Residential Code®* (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued March 2026.

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 16 00—Sheathing

DIVISION: 07 00 00—THERMAL AND MOISTURE
Section: 07 46 46—Fiber-Cement Siding

REPORT HOLDER:

JAMES HARDIE BUILDING PRODUCTS, INC.

EVALUATION SUBJECT:

HARDIE®SHINGLE PANELS, HARDIE®PLANK LAP SIDING, ARTISAN® LAP SIDING, AND HARDIE®SHINGLE INDIVIDUAL SHINGLES

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Hardie®Shingle Panels, Hardie®Plank Lap Siding, Artisan® Lap Siding, and Hardie®Shingle Individual Shingles**,** recognized in ICC-ES evaluation report ESR-2290, has 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

The Hardie®Shingle Panels, Hardie®Plank (Cemplank® and Prevail®) Lap Siding, Hardie®Shingle Individual Shingles, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-2290, complies 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-2290 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 conditions:

- Design wind loads must be based on Section 1609 of the *Florida Building Code-Building* or Section R301.2.1.1 of the *Florida Building Code-Residential*, as applicable.
- Load Combinations must be in accordance with Section 1605.2 if Section 1605.3 of the *Florida Building Code-Building*, as applicable.
- Installation must meet requirements of Section 1403.8 of the *Florida Building Code – Building* and Section R318.7 of the *Florida Building Code – Residential*, as applicable.
- Water-resistive barrier must be in accordance with Section 1404.2 of the *Florida Building Code-Building* or Section R703.2 of the *Florida Building Code-Residential*, as applicable.
- Flashing must be in accordance with Section 1405.4 of the *Florida Building Code-Building* or Section R703.4 of the *Florida Building Code-Residential*, as applicable.
- Evaluation of Artisan® Lap Siding is outside the scope of this supplement.

Use of the Hardie®Plank (Cemplank® and Prevail®) Lap Siding has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code-Building* and the *Florida Building Code-Residential* with the following conditions:

- The allowable negative design wind load of Hardie®Plank (Cemplank® and Prevail®) Lap Siding must not exceed 92 psf (4405 Pa).

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- Hardie®Plank (Cemplank® and Prevail®) Lap Siding must be installed on minimum 5/8-inch-thick solid plywood structural sheathing complying with DOC PS-1.
- 5/8-inch-thick solid plywood structural sheathing shall be attached to wood studs in accordance with *Florida Building Code-Building* Section 2322.3. The wood studs must have a minimum specific gravity of 0.42.
- 5/8-inch-thick solid plywood structural sheathing shall be attached to metal studs spaced at 6-inches (152 mm) on-center. At panel edges and all intermediate supports using a No. 8-18 1-1/4-inch (31.75 mm) long by 0.315-inch (8 mm) head diameter ribbed bugle head screw. The metal studs must have a minimum thickness of 0.033-inch (0.838 mm), web depth of 3-5/8-inch (92.1 mm), and flange size 1-5/8-inch (41.3 mm).
- Hardie®Plank (Cemplank® and Prevail®) Lap Siding shall be applied horizontally commencing from the bottom course of the wall with 1-1/4-inch-wide (31.75 mm) laps at the top of the plank such that the exposure area of each plank is less than or equal to 8-1/4-inch (210 mm) vertically.
- Hardie®Plank (Cemplank® and Prevail®) Lap Siding must be fastened to sheathing over wood studs with a minimum 2-1/2-inch (63.5 mm) long by 0.223-inch (5.66 mm) shank diameter corrosion-resistant siding nails.
- Hardie®Plank (Cemplank® and Prevail®) Lap Siding must be fastened to sheathing over metal studs with a minimum No. 8-18 by 2-1/4-inch (57.15 mm) by 0.315-inch (8 mm) bugle head screws.
- Fasteners are spaced 16 inches (406 mm) on-center and less than or equal to 8-1/4-inch (210 mm) vertically on the studs.
- Fasteners shall have a minimum edge distance of 3/8-inch (9.53 mm).
- Maximum support/span spacing shall be no more than 16 inches (406 mm) on-center.

In addition to the data noted in Section 6.0 of the evaluation report ESR-2290, data in accordance with *Florida Building Code* Test Protocols for High-Velocity Zones TAS 202 and TAS 203 was submitted for Hardie®Plank (Cemplank® and Prevail®) Lap Siding.

Use of the Hardie®Shingle Panels, Artisan® Lap Siding, and Hardie®Shingle Individual Shingles 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 March 2026.