# ICC-ES Evaluation Report

**ESR-2290**

*Reissued March 2024*

*Subject to renewal March 2026*

*This report also contains:*

**- CBC Supplement**

**- FBC Supplement**

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| **DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES**<br>**Section: 06 16 00—Sheathing**<br>**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**<br>**Section: 07 46 46—Fiber-Cement Siding** | **REPORT HOLDER:**<br>**JAMES HARDIE BUILDING PRODUCTS, INC.** | **EVALUATION SUBJECT:**<br>**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:

**JAMES HARDIE BUILDING PRODUCTS, INC.**
**10901 ELM AVENUE**
**FONTANA, CALIFORNIA 92337**
**(909) 942-7343**
**www.jameshardie.com**
**info@jameshardie.com**

**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)**

| PRODUCT | THICK (IN.) | FASTENER TYPE[13] | FASTENER SPACING (IN.) | FRAME TYPE[1] | STUD SPACING (IN.) | BLDG. HEIGHT (FT.) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}$[4,6,9,12]) EXPOSURE CATEGORY | | | 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]) 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}$[3,9,12,15]) EXPOSURE CATEGORY | | | 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]) 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 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]) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 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]) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 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]) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 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]) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 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]) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}$[3,9,12,15]) EXPOSURE CATEGORY | | | 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]) 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}$[3,9,12,15]) EXPOSURE CATEGORY | | | 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]) 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 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]) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 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]) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 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]) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 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]) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}$[3,9,12,15]) EXPOSURE CATEGORY | | | 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]) 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}$[3,9,12,15]) EXPOSURE CATEGORY | | | 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]) 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" wood 7/16 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}$[3,9,12,15]) EXPOSURE CATEGORY | | | 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]) 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}$[3,9,12,15]) EXPOSURE CATEGORY | | | 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]) 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)**

| PRODUCT | PRODUCT DIMENSION (IN.) | | FASTENER TYPE[4,16] | FASTENING METHOD[2] | FRAME TYPE[1,8] | STUD SPACING (IN.) | BUILDING HEIGHT (FT.) | 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]) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 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) | ≤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 | 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) | ≤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 | 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) | ≤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 | 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**

| Sheathing Type | Siding Fastener Type | Weather Exposure and Fastener Location | Height of Building (feet) | 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]) | |
|---|---|---|---|---|---|---|---|
| | | | | 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**

| Sheathing Type | Siding Fastener Type | Weather Exposure and Fastener Location | Height of Building (feet) | 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]) | |
|---|---|---|---|---|---|---|---|
| | | | | 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**

| Sheathing Type | Siding Fastener Type | Weather Exposure and Fastener Location | Height of Building (feet) | 2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}$[1,2,5,8]) Exposure Category | | 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]) 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 2024.

**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).

- 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 2024.