



EVALUATION SUBJECT

Hardie® Panel Siding 16-inch

James Hardie Product Trade Names covered in this evaluation:

Hardie® Panel Siding 16-inch (5/16-inch thick)

EVALUATION SCOPE:

ASCE 7-22 (ref. in the 2023 FBC)
2023 Florida Building Code (8th Edition)

EVALUATION PURPOSE:

speeds for direct attachment to wood and steel studs spaced at 16 inches on center using the same fasteners and fastener spacings as the HardiePanel® Siding noted in Table 4 of the ICC ES ESR-1844. This analysis also includes the product assemblies attached to wood structural panel sheathing with nails.

REFERENCE DOCUMENTS:

- ICC ES ESR-1844
- CAE Report No. 2201-1-R1, dated 1/3/22

Product Name in ESR-1844	Siding Thickness (in.)	Fastener Type	Fastener Spacing	Frame Type	Stud Spacing (in.)	Reference ESR-1844 page no.	Design Pressure (psf) ⁽¹⁾
HardiePanel® Siding	5/16	6d common, 2 in. long	6" edge, 12" field	2x4 wood (SG = 0.42 or higher)	16	5 of 8	29.6
HardiePanel® Siding	5/16	ET & F 0.10-in. knurled shank x 1-1/2-in. long x 0.25-in. HD pin fastener (AKN100-	4" edge, 8" field	Min. No. 20 ga. (33 mil) x 3-5/8 in. x 1-3/8 in. metal C-stud	16		56.7
HardiePanel® Siding	5/16	No. 8 x 1.25" x 0.323" HD ribbed bugle head screws	6" o.c.	(33 mil) x 3-5/8 in. x 1-3/8 in. metal C-stud or 2x4 wood studs (SG = 0.42	16	6 of 8	53.6
HardiePanel® Siding	5/16	No. 8 x 1.25" x 0.323" HD ribbed bugle head screws	8" o.c.	(33 mil) x 3-5/8 in. x 1-3/8 in. metal C-stud or 2x4 wood studs (SG = 0.42	16		43.8
HardiePanel® Siding	5/16	No. 8 x 1.25" x 0.323" HD ribbed bugle head screws	10" o.c.	(33 mil) x 3-5/8 in. x 1-3/8 in. metal C-stud or 2x4 wood studs (SG = 0.42	16		38.8
HardiePanel® Siding	5/16	No. 8 x 1.25" x 0.323" HD ribbed bugle head screws	12" o.c.	(33 mil) x 3-5/8 in. x 1-3/8 in. metal C-stud or 2x4 wood studs (SG = 0.42	16		35.4
HardiePanel® Siding	5/16	No. 8 x 1.25" long x 0.323" HD ribbed bugle head screws	6" o.c. into furring only	2x4 wood or 20 ga. (33 mil) steel framing with 3/4" thick by 3.5" wide wood furring or 20	16	7 of 8	53.6
HardiePanel® Siding	5/16	No. 8 x 1.25" long x 0.323" HD ribbed bugle head screws	8" o.c. into furring only	ga. (33 mil) steel framing with 3/4" thick by 3.5" wide wood furring or 20	16		43.8
HardiePanel® Siding	5/16	No. 8 x 1.25" long x 0.323" HD ribbed bugle head screws	10" o.c. into furring only	ga. (33 mil) steel framing with 3/4" thick by 3.5" wide wood furring or 20	16		38.8
HardiePanel® Siding	5/16	No. 8 x 1.25" long x 0.323" HD ribbed bugle head screws	12" o.c. into furring only	2x4 wood or 20 ga. (33 mil) steel framing with 3/4" thick by 3.5" wide wood furring or 20	16		35.4
HardiePanel® Siding	5/16	6d common, 2 in. long	4"	2x4 wood (SG = 0.42 or higher)	16	4 of 8	78.7
HardiePanel® Siding	5/16	6d common, 2 in. long	6"	2x4 wood (SG = 0.42 or higher)	16		49.7

Table 1 Footnote:

- (1) Design pressure values were derived from previous testing.
- (2) The Hardie® Panel Siding 16-inch is manufactured from the same approved formulations, thickness and processes as the HardiePanel® Siding.

Table 1B - Hardie® Panel Siding 16 inch Installed Onto Wood Framing and WSP (Reference CAE Report 2201-1)						
Product Name	Siding Thickness (in.)	Fastener Type	Fastener Spacing (in.)	Frame Type	Stud Spacing (in.)	Design Pressure (psf)
Hardie® Panel Siding 16-inch	5/16	0.090" shank dia., 0.215" HD, 1.5" long ring shank	6	2x4 DF framing	16	-67.3
Hardie® Panel Siding 16-inch	5/16	0.215" HD, 1.5" long ring shank nail	12	2x4 DF framing	16	-30.7
Hardie® Panel Siding 16-inch	5/16	0.090" shank dia., 0.215" HD, 1.5" long ring shank	8	2x4 DF framing	16	-55.1
Hardie® Panel Siding 16-inch	5/16	0.215" HD, 1.5" long ring shank nail	10	2x4 DF framing	16	-42.9
Hardie® Panel Siding 16-inch	5/16	0.215" HD, 1.5" long ring shank	6	sheathing over 2x4 DF framing ¹	24	-50.1
Hardie® Panel Siding 16-inch	5/16	0.215" HD, 1.5" long ring shank nail	12	7/16-inch OSB sheathing over 2x4 DF framing ¹	24	-27.2
Hardie® Panel Siding 16-inch	5/16	0.090" shank dia., 0.215" HD, 1.5" long ring shank	8	7/16-inch OSB sheathing over 2x4 DF framing ¹	24	-42.4
Hardie® Panel Siding 16-inch	5/16	0.215" HD, 1.5" long ring shank nail	10	7/16-inch OSB sheathing over 2x4 DF framing ¹	24	-34.8

Table 1B Footnotes:

1.Design pressure values are for nails penetrating into the OSB sheathing and not into framing.

DESIGN WIND LOAD PROCEDURES:

Fiber-cement siding transverse load capacity (wind load capacity) is determined from transverse load testing in accordance with ASTM E330 or E72 as noted in Section 4.0 of the ICC ES AC90, Acceptance Criteria for Fiber Cement Siding Used as Exterior Wall Siding (approved October 2018). The allowable/design capacity from the testing is based on a factor of safety of 3 applied to the ultimate test load per AC90. The wind load values are determined from the ASCE 7 equations.

Since the allowable design load is based on factor of safety of 3, allowable design loads on fiber-cement siding correlate directly to required design pressures for Allowable Stress Design, and therefore should be used with combination loading equations for Allowable Stress Design (ASD).

By using the combination loading equations for Allowable Stress Design (ASD), the tested allowable design loads for fiber-cement siding are aligned with the wind speed requirements in ASCE 7-22 (Figures 26.5-1A to -1D), or the figures in the 2023 FBC as applicable.

Equation 1, $q_z = 0.00256 \cdot K_z \cdot K_{xt} \cdot K_d \cdot V^2$ {ref. ASCE 7-22, Eq. 26.10-1}

q_z , velocity pressure at height z
 K_z , velocity pressure exposure coefficient evaluated at height z
 K_{xt} , topographic factor
 K_g , ground elevation factor, permitted to take $K_g = 1.0$
 V , basic wind speed (3-second gust MPH) as determined from:
ASCE 7-22 Figures 26.5-1A, B, C, or D
2023 FBC Figures 1609.3(1) -1609.3(4)

Equation 2, $V = V_{ult}$

V_{ult} , ultimate design wind speeds (3-second gust MPH) determined from 2023 FBC Figures 1609.3(1) - 1609.3(4)

Equation 3, $p = q_h \cdot K_d \cdot (GC_p - GC_{pi})$ $h \leq 60$ ft {ref. ASCE 7-22 Eq. 30.3-1}

q_h , velocity pressure evaluated at mean roof height h {ref. ASCE 7-22 Section 26.10}
 GC_p , product of external pressure coefficient and gust-effect factor {ref. ASCE 7-22 Figure 30.3-1 for walls}
 GC_{pi} , product of internal pressure coefficient and gust-effect factor {ref. ASCE 7-22 Table 26.13-1}
 K_d , wind directionality factor {ref. ASCE 7-22 Section 26.6}
 p , design pressure (PSF) for siding (allowable design load for siding)

To determine design pressure, substitute q_h into Equation 3.

Equation 4, $p = 0.00256 \cdot K_z \cdot K_{xt} \cdot K_d \cdot K_g \cdot V_{ult}^2 \cdot (GC_p - GC_{pi})$

Allowable Stress Design, ASCE 7-22 Section 2.4.1, load combination 7,

Equation 5, $0.6D + 0.6W$ {ref. ASCE 7-22 section 2.4.1, load combination 7}

D , dead load
 W , wind load (load due to wind pressure)

To determine the Allowable Stress Design Pressure, apply the load factor for W (wind) from Equation 5 to p (design pressure) determined from equation 4

Equation 6, $p_{asd} = 0.6 \cdot [p]$

Equation 7, $p_{asd} = 0.6 \cdot [0.00256 \cdot K_z \cdot K_{xt} \cdot K_d \cdot K_g \cdot V_{ult}^2 \cdot (GC_p - GC_{pi})]$

Equation 7 is used to populate Tables 3, 4, and 5.

To determine the Ultimate Wind Speed (V_{ult}) in Table 6 in next page, solve Equation 7 for V_{ult} .

Equation 8, $V_{ult} = (p_{asd} / 0.6 \cdot 0.00256 \cdot K_z \cdot K_{xt} \cdot K_d \cdot K_g \cdot (GC_p - GC_{pi}))^{0.5}$

Applicable to methods specified in Exceptions 1 through 3 of [2023 FBC] Section 1609.1.1., to determine the allowable nominal design wind speed (V_{asd}) in Table 6, apply the conversion formula

Equation 9, $V_{asd} = V_{ult} \cdot (0.6)^{0.5}$ {ref. 2023 FBC Eq. 16-17}

V_{asd} , Nominal design wind speed (3-second gust, mph)
 V_{ult} , Ultimate design wind speed (3-second gust, mph) determined from Figure 1609.3(1), 1609.3(2), 1609.3(3) or 1609.3(4)

Table 2 - Coefficients and Constants used in Determining V and p _s										
Height (ft)	K _e					Wall Zone 5				
	Exp B (ASCE 7-22)	Exp B	Exp C	Exp D		K _{zt}	K _d	K _e	GC _p	GC _{pi}
0-15	0.57	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
20	0.62	0.70	0.90	1.08		1	0.85	1	-1.4	0.18
25	0.66	0.70	0.94	1.12		1	0.85	1	-1.4	0.18
30	0.70	0.70	0.98	1.16		1	0.85	1	-1.4	0.18
35	0.72	0.72	1.01	1.19		1	0.85	1	-1.4	0.18
40	0.74	0.74	1.04	1.22		1	0.85	1	-1.4	0.18
45	0.765	0.765	1.065	1.245		1	0.85	1	-1.4	0.18
50	0.79	0.79	1.09	1.27		1	0.85	1	-1.4	0.18
55	0.81	0.81	1.11	1.29		1	0.85	1	-1.4	0.18
60	0.83	0.83	1.13	1.31		1	0.85	1	-1.4	0.18
100	0.95	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18

The coefficients and constants listed in Table 2 above were consistent for ASCE 7-22 except for K_z at Exposure B under 30 ft, where ASCE 7-22 allows to use lower exposure coefficient that previous codes used a more conservative values (resulted in higher design pressure). For the simplicity of the tables, the tables in the following sheet was populated using the more conservative ASCE 7-10 coefficients

Table 3 - Allowable Stress Design Pressure P _{asd} for Component and Cladding (C&C) to be Resisted at Various Wind Speeds for Wind Exposure Category B														
Wind Speed (3-second gust)	100	105	110	115	120	130	140	150	160	170	180	190	200	210
Height (ft)	Exposure B													
0-15	-14.4	-15.9	-17.5	-19.1	-20.8	-24.4	-28.3	-32.5	-37.0	-41.7	-46.8	-52.1	-57.8	-63.7
20	-14.4	-15.9	-17.5	-19.1	-20.8	-24.4	-28.3	-32.5	-37.0	-41.7	-46.8	-52.1	-57.8	-63.7
25	-14.4	-15.9	-17.5	-19.1	-20.8	-24.4	-28.3	-32.5	-37.0	-41.7	-46.8	-52.1	-57.8	-63.7
30	-14.4	-15.9	-17.5	-19.1	-20.8	-24.4	-28.3	-32.5	-37.0	-41.7	-46.8	-52.1	-57.8	-63.7
35	-14.9	-16.4	-18.0	-19.6	-21.4	-25.1	-29.1	-33.4	-38.0	-42.9	-48.1	-53.6	-59.4	-65.5
40	-15.3	-16.8	-18.5	-20.2	-22.0	-25.8	-29.9	-34.3	-39.1	-44.1	-49.5	-55.1	-61.1	-67.3
45	-15.8	-17.4	-19.1	-20.9	-22.7	-26.7	-30.9	-35.5	-40.4	-45.6	-51.1	-57.0	-63.1	-69.6
50	-16.3	-18.0	-19.7	-21.6	-23.5	-27.5	-31.9	-36.7	-41.7	-47.1	-52.8	-58.8	-65.2	-71.9
55	-16.7	-18.4	-20.2	-22.1	-24.1	-28.2	-32.7	-37.6	-42.8	-48.3	-54.1	-60.3	-66.8	-73.7
60	-17.1	-18.9	-20.7	-22.6	-24.7	-28.9	-33.6	-38.5	-43.8	-49.5	-55.5	-61.8	-68.5	-75.5
100	-24.6	-27.1	-29.7	-32.5	-35.4	-41.5	-48.1	-55.3	-62.9	-71.0	-79.6	-88.7	-98.2	-108.3

Table 4 - Allowable Stress Design Pressure P _{asd} for Component and Cladding (C&C) to be Resisted at Various Wind Speeds for Wind Exposure Category C														
Wind Speed (3-second gust)	100	105	110	115	120	130	140	150	160	170	180	190	200	210
Height (ft)	Exposure C													
0-15	-17.5	-19.3	-21.2	-23.2	-25.2	-29.6	-34.4	-39.5	-44.9	-50.7	-56.8	-63.3	-70.1	-77.3
20	-18.6	-20.5	-22.5	-24.6	-26.7	-31.4	-36.4	-41.8	-47.5	-53.7	-60.2	-67.0	-74.3	-81.9
25	-19.4	-21.4	-23.5	-25.6	-27.9	-32.8	-38.0	-43.6	-49.6	-56.0	-62.8	-70.0	-77.6	-85.5
30	-20.2	-22.3	-24.5	-26.7	-29.1	-34.2	-39.6	-45.5	-51.8	-58.4	-65.5	-73.0	-80.9	-89.2
35	-20.8	-23.0	-25.2	-27.6	-30.0	-35.2	-40.8	-46.9	-53.3	-60.2	-67.5	-75.2	-83.3	-91.9
40	-21.5	-23.7	-26.0	-28.4	-30.9	-36.3	-42.0	-48.3	-54.9	-62.0	-69.5	-77.4	-85.8	-94.6
45	-22.0	-24.2	-26.6	-29.1	-31.6	-37.1	-43.1	-49.4	-56.2	-63.5	-71.2	-79.3	-87.9	-96.9
50	-22.5	-24.8	-27.2	-29.7	-32.4	-38.0	-44.1	-50.6	-57.6	-65.0	-72.9	-81.2	-89.9	-99.2
55	-22.9	-25.2	-27.7	-30.3	-33.0	-38.7	-44.9	-51.5	-58.6	-66.2	-74.2	-82.7	-91.6	-101.0
60	-23.3	-25.7	-28.2	-30.8	-33.6	-39.4	-45.7	-52.4	-59.7	-67.4	-75.5	-84.1	-93.2	-102.8
100	-32.6	-35.9	-39.4	-43.1	-46.9	-55.0	-63.8	-73.3	-83.4	-94.1	-105.5	-117.6	-130.3	-143.6

Table 5 - Allowable Stress Design Pressure P _{asd} for Component and Cladding (C&C) to be Resisted at Various Wind Speeds for Wind Exposure Category D														
Wind Speed (3-second gust)	100	105	110	115	120	130	140	150	160	170	180	190	200	210
Height (ft)	Exposure D													
0-15	-21.2	-23.4	-25.7	-28.1	-30.6	-35.9	-41.6	-47.8	-54.4	-61.4	-68.8	-76.7	-85.0	-93.7
20	-22.3	-24.6	-27.0	-29.5	-32.1	-37.7	-43.7	-50.1	-57.0	-64.4	-72.2	-80.4	-89.1	-98.2
25	-23.1	-25.5	-28.0	-30.6	-33.3	-39.0	-45.3	-52.0	-59.1	-66.8	-74.9	-83.4	-92.4	-101.9
30	-23.9	-26.4	-29.0	-31.6	-34.5	-40.4	-46.9	-53.8	-61.3	-69.2	-77.5	-86.4	-95.7	-105.5
35	-24.5	-27.1	-29.7	-32.5	-35.3	-41.5	-48.1	-55.2	-62.8	-70.9	-79.5	-88.6	-98.2	-108.3
40	-25.2	-27.7	-30.5	-33.3	-36.2	-42.5	-49.3	-56.6	-64.4	-72.7	-81.5	-90.9	-100.7	-111.0
45	-25.7	-28.3	-31.1	-34.0	-37.0	-43.4	-50.3	-57.8	-65.7	-74.2	-83.2	-92.7	-102.7	-113.3
50	-26.2	-28.9	-31.7	-34.6	-37.7	-44.3	-51.3	-58.9	-67.1	-75.7	-84.9	-94.6	-104.8	-115.5
55	-26.6	-29.3	-32.2	-35.2	-38.3	-45.0	-52.2	-59.9	-68.1	-76.9	-86.2	-96.1	-106.4	-117.4
60	-27.0	-29.8	-32.7	-35.7	-38.9	-45.7	-53.0	-60.8	-69.2	-78.1	-87.6	-97.6	-108.1	-119.2
100	-37.0	-40.8	-44.7	-48.9	-53.2	-62.5	-72.5	-83.2	-94.6	-106.8	-119.8	-133.4	-147.9	-163.0

Tables 3, 4, and 5 are based off of ASCE 7-22, and consistent with the 2023 FBC

Calculation Example:

The following is an example of the wind speed calculation for Table 6:

$$P_{asd} = -29.6 \text{ psf}; K_z = 0.7 \text{ (Exp B)}; K_{zt} = 1; K_d = 0.85; K_e = 1; GC_p = -1.4; GC_{pi} = 0.18$$

Use Equation 8:

$$V_{ult} = \sqrt{\frac{P_{asd}}{0.6 \times 0.00256 \times K_z \times K_{zt} \times K_d \times K_e \times (GC_p - GC_{pi})}} = \sqrt{\frac{-29.6}{0.6 \times 0.00256 \times 0.7 \times 1 \times 0.85 \times 1 \times (-1.4 - 0.18)}} = 143 \text{ mph}$$

Use Equation 9:

$$V_{asd} = V_{ult} \sqrt{0.6} = 143 \times \sqrt{0.6} = 111 \text{ mph}$$





TABLE 6 - MAXIMUM WIND SPEED (MPH) FOR HARDIE® PANEL 16-INCH SIDING¹

							2023 FBC (Ultimate Design Wind Speed, V_{ult} ⁴)			2023 FBC (Nominal Design Wind, Speed, V_{asd} ^{3,6})												
							Applicable to methods specified in Section 1609.1.1. of 2023 FBC			Applicable to methods specified in Exceptions 1 through 3 of Section 1609.1.1 of 2023 FBC												
							Wind Exposure Category			Wind Exposure Category			Allowable Design Load (psf)	Coefficients used in calculations for V_{ult} ⁵								
Product	Product Thickness (in.)	Fastener Type ⁷	Fastener Spacing (inches)	Frame Type ⁸	Stud Spacing (in.)	Building Height ² (ft.)	B	C	D	B	C	D		Exp B	Exp C	Exp D	K_z	K_d	K_f	GC_2	GC_3	
Hardie® Panel Siding 16-inch	5/16	6d common, 2 in. long	6" edge, 12" field	2x4 wood (SG = 0.42 or higher)	16	0-15	143	130	118	111	101	91	-29.6	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	143	126	115	111	98	89	-29.6	0.70	0.90	1.08						
						25	143	123	113	111	96	88	-29.6	0.70	0.94	1.12						
						30	143	121	111	111	94	86	-29.6	0.70	0.98	1.16						
						35	141	119	-	109	92	-	-29.6	0.72	1.01	1.19						
						40	139	117	-	108	91	-	-29.6	0.74	1.04	1.22						
						45	137	116	-	106	90	-	-29.6	0.77	1.07	1.25						
						50	135	115	-	104	89	-	-29.6	0.79	1.09	1.27						
						55	133	114	-	103	88	-	-29.6	0.81	1.11	1.29						
						60	131	113	-	102	87	-	-29.6	0.83	1.13	1.31						
100	-	-	-	-	-	-	-29.6	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18						
Hardie® Panel Siding 16-inch	5/16	ET & F 0.10-in. knurled shank x 1-1/2 in. long x 0.25-in. HD pin fastener (AKN100 0150NA)	4" edge, 8" field	Min. No. 20 ga. (33 mil) x 3-5/8 in. x 1-3/8 in. metal C-stud	16	0-15	198	180	163	153	139	126	-56.7	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	198	175	159	153	135	124	-56.7	0.70	0.90	1.08						
						25	198	171	157	153	132	121	-56.7	0.70	0.94	1.12						
						30	198	167	154	153	130	119	-56.7	0.70	0.98	1.16						
						35	195	165	152	151	128	118	-56.7	0.72	1.01	1.19						
						40	193	163	150	149	126	116	-56.7	0.74	1.04	1.22						
						45	189	161	149	147	124	115	-56.7	0.77	1.07	1.25						
						50	186	159	147	144	123	114	-56.7	0.79	1.09	1.27						
						55	184	157	146	143	122	113	-56.7	0.81	1.11	1.29						
						60	182	156	145	141	121	112	-56.7	0.83	1.13	1.31						
100	152	132	124	118	102	96	-56.7	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18						
Hardie® Panel Siding 16-inch	5/16	No. 8 x 1.25" x 0.323" HD ribbed bugle head screws	6" o.c.	Min. No. 20 ga. (33 mil) x 3-5/8 in. x 1-3/8 in. metal C-stud or 2x4 wood studs (SG = 0.42 or greater)	16	0-15	193	175	159	149	135	123	-53.6	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	193	170	155	149	132	120	-53.6	0.70	0.90	1.08						
						25	193	166	152	149	129	118	-53.6	0.70	0.94	1.12						
						30	193	163	150	149	126	116	-53.6	0.70	0.98	1.16						
						35	190	160	148	147	124	114	-53.6	0.72	1.01	1.19						
						40	187	158	146	145	122	113	-53.6	0.74	1.04	1.22						
						45	184	156	144	143	121	112	-53.6	0.77	1.07	1.25						
						50	181	154	143	140	120	111	-53.6	0.79	1.09	1.27						
						55	179	153	142	139	119	110	-53.6	0.81	1.11	1.29						
						60	177	152	141	137	117	109	-53.6	0.83	1.13	1.31						
100	148	128	120	114	99	93	-53.6	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18						
Hardie® Panel Siding 16-inch	5/16	No. 8 x 1.25" x 0.323" HD ribbed bugle head screws	8" o.c.	Min. No. 20 ga. (33 mil) x 3-5/8 in. x 1-3/8 in. metal C-stud or 2x4 wood studs (SG = 0.42 or greater)	16	0-15	174	158	144	135	122	111	-43.8	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	174	154	140	135	119	109	-43.8	0.70	0.90	1.08						
						25	174	150	138	135	116	107	-43.8	0.70	0.94	1.12						
						30	174	147	135	135	114	105	-43.8	0.70	0.98	1.16						
						35	172	145	134	133	112	103	-43.8	0.72	1.01	1.19						
						40	169	143	132	131	111	102	-43.8	0.74	1.04	1.22						
						45	167	141	130	129	109	101	-43.8	0.77	1.07	1.25						
						50	164	140	129	127	108	100	-43.8	0.79	1.09	1.27						
						55	162	138	128	125	107	99	-43.8	0.81	1.11	1.29						
						60	160	137	127	124	106	99	-43.8	0.83	1.13	1.31						
100	134	116	-	103	90	-	-43.8	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18						
Hardie® Panel Siding 16-inch	5/16	No. 8 x 1.25" x 0.323" HD ribbed bugle head screws	10" o.c.	Min. No. 20 ga. (33 mil) x 3-5/8 in. x 1-3/8 in. metal C-stud or 2x4 wood studs (SG = 0.42 or greater)	16	0-15	164	149	135	127	115	105	-38.8	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	164	145	132	127	112	102	-38.8	0.70	0.90	1.08						
						25	164	141	130	127	110	100	-38.8	0.70	0.94	1.12						
						30	164	139	127	127	107	99	-38.8	0.70	0.98	1.16						
						35	162	136	126	125	106	97	-38.8	0.72	1.01	1.19						
						40	159	134	124	123	104	96	-38.8	0.74	1.04	1.22						
						45	157	133	123	121	103	95	-38.8	0.77	1.07	1.25						
						50	154	131	122	120	102	94	-38.8	0.79	1.09	1.27						
						55	152	130	121	118	101	94	-38.8	0.81	1.11	1.29						
						60	151	129	120	117	100	93	-38.8	0.83	1.13	1.31						
100	126	-	-	97	-	-	-38.8	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18						
Hardie® Panel Siding 16-inch	5/16	No. 8 x 1.25" x 0.323" HD ribbed bugle head screws	12" o.c.	Min. No. 20 ga. (33 mil) x 3-5/8 in. x 1-3/8 in. metal C-stud or 2x4 wood studs (SG = 0.42 or greater)	16	0-15	157	142	129	121	110	100	-35.4	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	157	138	126	121	107	98	-35.4	0.70	0.90	1.08						
						25	157	135	124	121	105	96	-35.4	0.70	0.94	1.12						
						30	157	132	122	121	103	94	-35.4	0.70	0.98	1.16						
						35	154	130	120	120	101	93	-35.4	0.72	1.01	1.19						
						40	152	128	119	118	100	92	-35.4	0.74	1.04	1.22						
						45	150	127	117	116	98	91	-35.4	0.77	1.07	1.25						
						50	147	125	116	114	97	90	-35.4	0.79	1.09	1.27						
						55	146	124	115	113	96	89	-35.4	0.81	1.11	1.29						
						60	144	123	114	111	95	89	-35.4	0.83	1.13	1.31						
100	120	-	-	93	-	-	-35.4	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18						



TABLE 6 - MAXIMUM WIND SPEED (MPH) FOR HARDIE® PANEL 16-INCH SIDING¹

							2023 FBC (Ultimate Design Wind Speed, V_{ult} ⁴)			2023 FBC (Nominal Design Wind, Speed, V_{asd} ^{3,6})			Coefficients used in calculations for V_{ult} ⁵										
							Applicable to methods specified in Section 1609.1.1. of 2023 FBC			Applicable to methods specified in Exceptions 1 through 3 of Section 1609.1.1 of 2023 FBC													Test Results
							Wind Exposure Category			Wind Exposure Category			Allowable Design Load (psf)	K_z			K_d	K_e	K_g	GC_p	GC_{pi}		
Product	Product Thickness (in.)	Fastener Type ⁷	Fastener Spacing (inches)	Frame Type ⁸	Stud Spacing (in.)	Building Height ² (ft.)	B	C	D	B	C	D	Exp B	Exp C	Exp D	K_z	K_d	K_e	GC_p	GC_{pi}			
Hardie® Panel Siding 16-inch	5/16	No. 8 x 1.25" long x 0.323" HD ribbed bugle head screws	6" o.c. into furring only	2x4 wood or 20 ga. (33 mil) steel framing with 3/4" thick by 3.5" wide wood furring or 20 ga. (33 mil.) steel furring	16	0-15	193	175	159	149	135	123	-53.6	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18	
						20	193	170	155	149	132	120	-53.6	0.70	0.90	1.08	1	0.85	1	-1.4	0.18		
						25	193	166	152	149	129	118	-53.6	0.70	0.94	1.12	1	0.85	1	-1.4	0.18		
						30	193	163	150	149	126	116	-53.6	0.70	0.98	1.16	1	0.85	1	-1.4	0.18		
						35	190	160	148	147	124	114	-53.6	0.72	1.01	1.19	1	0.85	1	-1.4	0.18		
						40	187	158	146	145	122	113	-53.6	0.74	1.04	1.22	1	0.85	1	-1.4	0.18		
						45	184	156	144	143	121	112	-53.6	0.77	1.07	1.25	1	0.85	1	-1.4	0.18		
						50	181	154	143	140	120	111	-53.6	0.79	1.09	1.27	1	0.85	1	-1.4	0.18		
						55	179	153	142	139	119	110	-53.6	0.81	1.11	1.29	1	0.85	1	-1.4	0.18		
						60	177	152	141	137	117	109	-53.6	0.83	1.13	1.31	1	0.85	1	-1.4	0.18		
						100	148	128	120	114	99	93	-53.6	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18	
						100	174	158	144	135	122	111	-43.8	0.70	0.85	1.03	1	0.85	1	-1.4	0.18		
Hardie® Panel Siding 16-inch	5/16	No. 8 x 1.25" long x 0.323" HD ribbed bugle head screws	8" o.c. into furring only	2x4 wood or 20 ga. (33 mil) steel framing with 3/4" thick by 3.5" wide wood furring or 20 ga. (33 mil.) steel furring	16	0-15	174	158	140	135	122	111	-43.8	0.70	0.90	1.08	hs60	1	0.85	1	-1.4	0.18	
						20	174	154	140	135	119	109	-43.8	0.70	0.94	1.12	1	0.85	1	-1.4	0.18		
						25	174	150	138	135	116	107	-43.8	0.70	0.98	1.16	1	0.85	1	-1.4	0.18		
						30	174	147	135	135	114	105	-43.8	0.70	0.98	1.16	1	0.85	1	-1.4	0.18		
						35	172	145	134	133	112	103	-43.8	0.72	1.01	1.19	1	0.85	1	-1.4	0.18		
						40	169	143	132	131	111	102	-43.8	0.74	1.04	1.22	1	0.85	1	-1.4	0.18		
						45	167	141	130	129	109	101	-43.8	0.77	1.07	1.25	1	0.85	1	-1.4	0.18		
						50	164	140	129	127	108	100	-43.8	0.79	1.09	1.27	1	0.85	1	-1.4	0.18		
						55	162	138	128	125	107	99	-43.8	0.81	1.11	1.29	1	0.85	1	-1.4	0.18		
						60	160	137	127	124	106	99	-43.8	0.83	1.13	1.31	1	0.85	1	-1.4	0.18		
						100	134	116	-	103	90	-	-43.8	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18	
						100	164	149	135	127	115	105	-38.8	0.70	0.85	1.03	1	0.85	1	-1.4	0.18		
Hardie® Panel Siding 16-inch	5/16	No. 8 x 1.25" long x 0.323" HD ribbed bugle head screws	10" o.c. into furring only	2x4 wood or 20 ga. (33 mil) steel framing with 3/4" thick by 3.5" wide wood furring or 20 ga. (33 mil.) steel furring	16	0-15	164	149	135	127	115	105	-38.8	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18	
						20	164	145	132	127	112	102	-38.8	0.70	0.90	1.08	1	0.85	1	-1.4	0.18		
						25	164	141	130	127	110	100	-38.8	0.70	0.94	1.12	1	0.85	1	-1.4	0.18		
						30	164	139	127	127	107	99	-38.8	0.70	0.98	1.16	1	0.85	1	-1.4	0.18		
						35	162	136	126	125	106	97	-38.8	0.72	1.01	1.19	1	0.85	1	-1.4	0.18		
						40	159	134	124	123	104	96	-38.8	0.74	1.04	1.22	1	0.85	1	-1.4	0.18		
						45	157	133	123	121	103	95	-38.8	0.77	1.07	1.25	1	0.85	1	-1.4	0.18		
						50	154	131	122	120	102	94	-38.8	0.79	1.09	1.27	1	0.85	1	-1.4	0.18		
						55	152	130	121	118	101	94	-38.8	0.81	1.11	1.29	1	0.85	1	-1.4	0.18		
						60	151	129	120	117	100	93	-38.8	0.83	1.13	1.31	1	0.85	1	-1.4	0.18		
						100	126	-	-	97	-	-	-38.8	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18	
						100	157	142	129	121	110	100	-35.4	0.70	0.85	1.03	1	0.85	1	-1.4	0.18		
Hardie® Panel Siding 16-inch	5/16	No. 8 x 1.25" long x 0.323" HD ribbed bugle head screws	12" o.c. into furring only	2x4 wood or 20 ga. (33 mil) steel framing with 3/4" thick by 3.5" wide wood furring or 20 ga. (33 mil.) steel furring	16	0-15	157	138	126	121	107	98	-35.4	0.70	0.90	1.08	hs60	1	0.85	1	-1.4	0.18	
						20	157	135	124	121	105	96	-35.4	0.70	0.94	1.12	1	0.85	1	-1.4	0.18		
						25	157	132	122	121	103	94	-35.4	0.70	0.98	1.16	1	0.85	1	-1.4	0.18		
						30	157	132	122	121	103	94	-35.4	0.70	0.98	1.16	1	0.85	1	-1.4	0.18		
						35	154	130	120	120	101	93	-35.4	0.72	1.01	1.19	1	0.85	1	-1.4	0.18		
						40	152	128	119	118	100	92	-35.4	0.74	1.04	1.22	1	0.85	1	-1.4	0.18		
						45	150	127	117	116	98	91	-35.4	0.77	1.07	1.25	1	0.85	1	-1.4	0.18		
						50	147	125	116	114	97	90	-35.4	0.79	1.09	1.27	1	0.85	1	-1.4	0.18		
						55	146	124	115	113	96	89	-35.4	0.81	1.11	1.29	1	0.85	1	-1.4	0.18		
						60	144	123	114	111	95	89	-35.4	0.83	1.13	1.31	1	0.85	1	-1.4	0.18		
						100	120	-	-	93	-	-	-35.4	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18	
						100	233	212	192	181	164	149	-78.7	0.70	0.85	1.03	1	0.85	1	-1.4	0.18		
Hardie® Panel Siding 16-inch	5/16	6d common, 2 in. long	4"	2x4 wood (SG = 0.42 or higher)	16	0-15	233	206	188	181	159	146	-78.7	0.70	0.90	1.08	hs60	1	0.85	1	-1.4	0.18	
						20	233	201	185	181	156	143	-78.7	0.70	0.94	1.12	1	0.85	1	-1.4	0.18		
						25	233	197	181	181	153	140	-78.7	0.70	0.98	1.16	1	0.85	1	-1.4	0.18		
						30	230	194	179	178	151	139	-78.7	0.72	1.01	1.19	1	0.85	1	-1.4	0.18		
						35	230	194	179	178	151	139	-78.7	0.72	1.01	1.19	1	0.85	1	-1.4	0.18		
						40	227	192	177	176	148	137	-78.7	0.74	1.04	1.22	1	0.85	1	-1.4	0.18		
						45	223	189	175	173	146	135	-78.7	0.77	1.07	1.25	1	0.85	1	-1.4	0.18		
						50	220	187	173	170	145	134	-78.7	0.79	1.09	1.27	1	0.85	1	-1.4	0.18		
						55	217	185	172	168	144	133	-78.7	0.81	1.11	1.29	1	0.85	1	-1.4	0.18		
60	214	184	171	166	142	132	-78.7	0.83	1.13	1.31	1	0.85	1	-1.4	0.18								
100	179	155	146	139	120	113	-78.7	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18							
Hardie® Panel Siding 16-inch	5/16	6d common, 2 in. long	6"	2x4 wood (SG = 0.42 or higher)	16	0-15	186	168	153	144	130	118	-49.7	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18	
						20	186	164	149	144	127	116	-49.7	0.70	0.90	1.08	1	0.85	1	-1.4	0.18		
						25	186	160	147	144	124	114	-49.7	0.70	0.94	1.12	1	0.85	1	-1.4	0.18		
						30	186	157	144	144	121	112	-49.7	0.70	0.98	1.16	1	0.85	1	-1.4	0.18		
						35	183	154	142	142	120	110	-49.7	0.72	1.01	1.19	1	0.85	1	-1.4	0.18		
						40	180	152	141	140	118	109	-49.7	0.74	1.04	1.22	1	0.85	1	-1.4	0.18		
						45	177	150	139	137	116	108	-49.7	0.77	1.07	1.25	1	0.85	1	-1.4	0.18		
						50	175	149	138	135	115	107	-49.7	0.79	1.09	1.27	1	0.85	1	-1.4	0.18		
						55	172	147	137	134	114	106	-49.7	0.81	1.11	1.29	1	0.85	1	-1.4	0.18		
						60	170	146	136	132	113	105	-49.7	0.83	1.13	1.31	1	0.85	1	-1.4	0.18		
						100	142	124	116	110	96	90	-49.7	0.95	1.26	1.43	h>60	1	0.85	1	-1.8	0.18	



TABLE 6 - MAXIMUM WIND SPEED (MPH) FOR HARDIE® PANEL 16-INCH SIDING¹

							2023 FBC (Ultimate Design Wind Speed, V_{ult} ⁴)			2023 FBC (Nominal Design Wind, Speed, V_{asd} ^{3,6})												
							Applicable to methods specified in Section 1609.1.1. of 2023 FBC			Applicable to methods specified in Exceptions 1 through 3 of Section 1609.1.1 of 2023 FBC												
							Wind Exposure Category			Wind Exposure Category			Allowable Design Load (psf)	K_z			K_e	K_d	K_f	GC _p	GC _s	
							Product	Product Thickness (in.)	Fastener Type ⁷	Fastener Spacing (inches)	Frame Type ⁸	Stud Spacing (in.)		Building Height ² (ft.)	B	C						D
Hardie® Panel Siding 16-inch	5/16	0.090" shank dia., 0.215" HD, 1.5" long ring shank nail	6	2x4 DF framing	16	0-15	216	196	178	167	152	138	-67.3	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	216	190	174	167	147	135	-67.3	0.70	0.90	1.08		1	0.85	1	-1.4	0.18
						25	216	186	171	167	144	132	-67.3	0.70	0.94	1.12		1	0.85	1	-1.4	0.18
						30	216	182	168	167	141	130	-67.3	0.70	0.98	1.16		1	0.85	1	-1.4	0.18
						35	213	180	166	165	139	128	-67.3	0.72	1.01	1.19		1	0.85	1	-1.4	0.18
						40	210	177	163	163	137	127	-67.3	0.74	1.04	1.22		1	0.85	1	-1.4	0.18
						45	206	175	162	160	135	125	-67.3	0.77	1.07	1.25		1	0.85	1	-1.4	0.18
						50	203	173	160	157	134	124	-67.3	0.79	1.09	1.27		1	0.85	1	-1.4	0.18
						55	201	171	159	155	133	123	-67.3	0.81	1.11	1.29		1	0.85	1	-1.4	0.18
						60	198	170	158	154	132	122	-67.3	0.83	1.13	1.31		1	0.85	1	-1.4	0.18
						100	166	144	135	128	111	104	-67.3	0.95	1.26	1.43		h>60	1	0.85	1	-1.8
Hardie® Panel Siding 16-inch	5/16	0.090" shank dia., 0.215" HD, 1.5" long ring shank nail	8	2x4 DF framing	16	0-15	195	177	161	151	137	125	-55.1	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	195	172	157	151	133	122	-55.1	0.70	0.90	1.08		1	0.85	1	-1.4	0.18
						25	195	169	154	151	131	120	-55.1	0.70	0.94	1.12		1	0.85	1	-1.4	0.18
						30	195	165	152	151	128	118	-55.1	0.70	0.98	1.16		1	0.85	1	-1.4	0.18
						35	193	163	150	149	126	116	-55.1	0.72	1.01	1.19		1	0.85	1	-1.4	0.18
						40	190	160	148	147	124	115	-55.1	0.74	1.04	1.22		1	0.85	1	-1.4	0.18
						45	187	158	146	145	122	113	-55.1	0.77	1.07	1.25		1	0.85	1	-1.4	0.18
						50	184	157	145	142	121	112	-55.1	0.79	1.09	1.27		1	0.85	1	-1.4	0.18
						55	182	155	144	141	120	111	-55.1	0.81	1.11	1.29		1	0.85	1	-1.4	0.18
						60	179	154	143	139	119	111	-55.1	0.83	1.13	1.31		1	0.85	1	-1.4	0.18
						100	150	130	122	116	101	95	-55.1	0.95	1.26	1.43		h>60	1	0.85	1	-1.8
Hardie® Panel Siding 16-inch	5/16	0.090" shank dia., 0.215" HD, 1.5" long ring shank nail	10	2x4 DF framing	16	0-15	172	156	142	134	121	110	-42.9	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	172	152	139	134	118	108	-42.9	0.70	0.90	1.08		1	0.85	1	-1.4	0.18
						25	172	149	136	134	115	106	-42.9	0.70	0.94	1.12		1	0.85	1	-1.4	0.18
						30	172	146	134	134	113	104	-42.9	0.70	0.98	1.16		1	0.85	1	-1.4	0.18
						35	170	144	132	132	111	102	-42.9	0.72	1.01	1.19		1	0.85	1	-1.4	0.18
						40	168	141	131	130	110	101	-42.9	0.74	1.04	1.22		1	0.85	1	-1.4	0.18
						45	165	139	129	128	108	100	-42.9	0.77	1.07	1.25		1	0.85	1	-1.4	0.18
						50	162	138	128	126	107	99	-42.9	0.79	1.09	1.27		1	0.85	1	-1.4	0.18
						55	160	137	127	124	106	98	-42.9	0.81	1.11	1.29		1	0.85	1	-1.4	0.18
						60	158	136	126	123	105	98	-42.9	0.83	1.13	1.31		1	0.85	1	-1.4	0.18
						100	132	115	-	102	89	-	-42.9	0.95	1.26	1.43		h>60	1	0.85	1	-1.8
Hardie® Panel Siding 16-inch	5/16	0.090" shank dia., 0.215" HD, 1.5" long ring shank nail	12	2x4 DF framing	16	0-15	146	132	120	113	103	93	-30.7	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	146	129	117	113	100	91	-30.7	0.70	0.90	1.08		1	0.85	1	-1.4	0.18
						25	146	126	115	113	98	89	-30.7	0.70	0.94	1.12		1	0.85	1	-1.4	0.18
						30	146	123	113	113	96	88	-30.7	0.70	0.98	1.16		1	0.85	1	-1.4	0.18
						35	144	121	112	111	94	87	-30.7	0.72	1.01	1.19		1	0.85	1	-1.4	0.18
						40	142	120	111	110	93	86	-30.7	0.74	1.04	1.22		1	0.85	1	-1.4	0.18
						45	140	118	-	108	91	-	-30.7	0.77	1.07	1.25		1	0.85	1	-1.4	0.18
						50	137	117	-	106	91	-	-30.7	0.79	1.09	1.27		1	0.85	1	-1.4	0.18
						55	136	116	-	105	90	-	-30.7	0.81	1.11	1.29		1	0.85	1	-1.4	0.18
						60	134	115	-	104	89	-	-30.7	0.83	1.13	1.31		1	0.85	1	-1.4	0.18
						100	112	-	-	87	-	-	-30.7	0.95	1.26	1.43		h>60	1	0.85	1	-1.8
Hardie® Panel Siding 16-inch	5/16	0.090" shank dia., 0.215" HD, 1.5" long ring shank nail	6	7/16" OSB over 2x4 DF framing	24	0-15	186	169	154	144	131	119	-50.1	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	186	164	150	144	127	116	-50.1	0.70	0.90	1.08		1	0.85	1	-1.4	0.18
						25	186	161	147	144	124	114	-50.1	0.70	0.94	1.12		1	0.85	1	-1.4	0.18
						30	186	157	145	144	122	112	-50.1	0.70	0.98	1.16		1	0.85	1	-1.4	0.18
						35	184	155	143	142	120	111	-50.1	0.72	1.01	1.19		1	0.85	1	-1.4	0.18
						40	181	153	141	140	118	109	-50.1	0.74	1.04	1.22		1	0.85	1	-1.4	0.18
						45	178	151	139	138	117	108	-50.1	0.77	1.07	1.25		1	0.85	1	-1.4	0.18
						50	175	149	138	136	116	107	-50.1	0.79	1.09	1.27		1	0.85	1	-1.4	0.18
						55	173	148	137	134	115	106	-50.1	0.81	1.11	1.29		1	0.85	1	-1.4	0.18
						60	171	147	136	132	114	105	-50.1	0.83	1.13	1.31		1	0.85	1	-1.4	0.18
						100	143	124	116	111	96	90	-50.1	0.95	1.26	1.43		h>60	1	0.85	1	-1.8
Hardie® Panel Siding 16-inch	5/16	0.090" shank dia., 0.215" HD, 1.5" long ring shank nail	8	7/16" OSB over 2x4 DF framing	24	0-15	171	156	141	133	120	109	-42.4	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	171	151	138	133	117	107	-42.4	0.70	0.90	1.08		1	0.85	1	-1.4	0.18
						25	171	148	136	133	115	105	-42.4	0.70	0.94	1.12		1	0.85	1	-1.4	0.18
						30	171	145	133	133	112	103	-42.4	0.70	0.98	1.16		1	0.85	1	-1.4	0.18
						35	169	143	131	131	111	102	-42.4	0.72	1.01	1.19		1	0.85	1	-1.4	0.18
						40	167	141	130	129	109	101	-42.4	0.74	1.04	1.22		1	0.85	1	-1.4	0.18
						45	164	139	128	127	107	99	-42.4	0.77	1.07	1.25		1	0.85	1	-1.4	0.18
						50	161	137	127	125	106	98	-42.4	0.79	1.09	1.27		1	0.85	1	-1.4	0.18
						55	159	136	126	123	105	98	-42.4	0.81	1.11	1.29		1	0.85	1	-1.4	0.18
						60	157	135	125	122	105	97	-42.4	0.83	1.13	1.31		1	0.85	1	-1.4	0.18
						100	131	114	-	102	88	-	-42.4	0.95	1.26	1.43		h>60	1	0.85	1	-1.8
Hardie® Panel Siding 16-inch	5/16	0.090" shank dia., 0.215" HD, 1.5" long ring shank nail	10	7/16" OSB over 2x4 DF framing	24	0-15	155	141	128	120	109	99	-34.8	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18
						20	155	137	125	120	106	97	-34.8	0.70	0.90	1.08		1	0.85	1	-1.4	0.18
						25	155	134	123	120	104	95	-34.8	0.70	0.94	1.12		1	0.85	1	-1.4	0.18
						30	155	131	121	120	102	93	-34.8	0.70	0.98	1.16		1	0.85	1	-1.4	0.18
						35	153	129	119	119	100	92	-34.8	0.72	1.01	1.19		1	0.85	1	-1.4	0.18
						40	151	127	118	117	99	91	-34.8	0.74	1.04	1.22		1	0.85	1	-1.4	0.18
						45	148	126	116	115	97	90	-34.8	0.77	1.07	1.25		1	0.85	1	-1.4	0.18
						50	146	124	115	113	96	89	-34.8	0.79	1.09	1.27		1	0.85	1	-1.4	0.18
						55	144	123	114	112	95	89	-34.8	0.81	1.11	1.29		1	0.85	1	-1.4	0.18
						60	143	122	113	110	95	88	-34.8	0.83	1.13	1.31		1	0.85	1	-1.4	0.18
						100	119	-	-	92	-	-	-34.8	0.95	1.26	1.43		h>60	1	0.85	1	-1.8

							2023 FBC (Ultimate Design Wind Speed, V_{ult}^4)			2023 FBC (Nominal Design Wind, Speed, $V_{asd}^{3,6}$)													
							Applicable to methods specified in Section 1609.1.1. of 2023 FBC			Applicable to methods specified in Exceptions 1 through 3 of Section 1609.1.1 of 2023 FBC			Test Results	Coefficients used in calculations for V_{ult}^5									
							Wind Exposure Category			Wind Exposure Category													
Product	Product Thickness (in.)	Fastener Type ⁷	Fastener Spacing (inches)	Frame Type ⁸	Stud Spacing (in.)	Building Height ² (ft.)	B	C	D	B	C	D	Allowable Design Load (psf)	K _e									
							Exp B	Exp C	Exp D	Exp B	Exp C	Exp D		K _e	K _d	K _f	GC _p	GC _{pe}					
Hardie® Panel Siding 16-inch	5/16	0.090" shank dia., 0.215" HD, 1.5" long ring shank nail	12	7/16" OSB over 2x4 DF framing	24	0-15	137	124	113	106	96	88	-27.2	0.70	0.85	1.03	hs60	1	0.85	1	-1.4	0.18	
						20	137	121	110	106	94	86	-27.2	0.70	0.90	1.08		1	0.85	1	-1.4	0.18	
						25	137	118	-	106	92	-	-27.2	0.70	0.94	1.12		1	0.85	1	-1.4	0.18	
						30	137	116	-	106	90	-	-27.2	0.70	0.98	1.16		1	0.85	1	-1.4	0.18	
						35	135	114	-	105	88	-	-27.2	0.72	1.01	1.19		1	0.85	1	-1.4	0.18	
						40	133	113	-	103	87	-	-27.2	0.74	1.04	1.22		1	0.85	1	-1.4	0.18	
						45	131	111	-	102	86	-	-27.2	0.77	1.07	1.25		1	0.85	1	-1.4	0.18	
						50	129	-	-	100	-	-	-27.2	0.79	1.09	1.27		1	0.85	1	-1.4	0.18	
						55	128	-	-	99	-	-	-27.2	0.81	1.11	1.29		1	0.85	1	-1.4	0.18	
						60	126	-	-	98	-	-	-27.2	0.83	1.13	1.31		1	0.85	1	-1.4	0.18	
						100	-	-	-	-	-	-	-27.2	0.95	1.26	1.43		h>60	1	0.85	1	-1.8	0.18

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