

Technical Bulletin

HardiePlank™ Lap Siding, HardiePanel™ Vertical Siding, and Artisan® Lap Siding
Directly Fastened Over Structurally Insulated Panels (SIP's)¹



January 2010



(replaces Technical Bulletin dated 9/4/09)

Based on ASTM E330 Transverse Uniform Load Tests (wind load tests) and ASTM D 1037 Fastener Withdrawal and Fastener Pull Through Tests, HardiePlank™ Lap Siding, HardiePanel™ Vertical Siding, and Artisan® Lap Siding over SIP's¹ shall be fastened according to the Allowable Fastener Spacing listed in Table 1 (HardiePlank), Table 2 (HardiePlank, Artisan Lap), or Table 3 (HardiePanel) on the subsequent pages.

James Hardie Building Products Installation Instructions (HardiePlank, HardiePanel, Artisan Lap Siding) shall be followed for basic installation requirements. This bulletin only addresses the mechanical connection schedule of James Hardie Building Products fiber-cement siding to the OSB¹ sheathing. SIP's¹ is an engineered factory built wall unit, hence it is important to follow the individual SIP¹ manufacturer's structural design requirements and their installation instructions concerning the application of siding. Refer to the SIP¹ manufacturer for adhesive and cohesive strength limitations of the SIP¹ panel.

All national, state, and local building code requirements must be followed and where they are more stringent than the JamesHardie® installation requirements, state and local requirements will take precedence.

Current and detailed information on JamesHardie® product applications are found at <http://www.jameshardie.com>.

For further clarification, please contact your local sales representative, or, the JamesHardie® Technical Desk at 1-800-942-7343.

¹ Minimum 7/16 inch APA rated OSB

DESIGN ADVICE: Any information or assistance provided by James Hardie in relation to specific projects must be approved by the relevant specialists engaged for the project eg. builder, architect or engineer. James Hardie will not be responsible in connection with any such information or assistance.

IMPORTANT: Failure to install and finish this product in accordance with applicable building codes and James Hardie written application instructions may affect system performance, violate local building codes, void the product-only warranty and lead to personal injury.

Table 1, HardiePlank™ Lap Siding Blind Nail - Roofing Nail Fastening Method

IBC® & IRC®/2006																
Fastner: No. 11 Gauge X 1-3/4" long corrosion resistant roofing nail - Blind Nailed ³																
Table Shows Allowable Fastener Spacing ⁵ (inches) for																
5/16" Hardiplank™ Lap Siding fastened to APA rated minimum 7/16" thick OSB Sheathing																
Basic Wind Speed	Building Height (feet)	5¼-inch wide			6¼- & 6½-inch wide			7¼- & 7½-inch wide			8- & 8¼-inch wide			9¼- & 9½-inch wide		
		Exposure			Exposure			Exposure			Exposure			Exposure		
		B	C	D	B	C	D	B	C	D	B	C	D	B	C	D
90 mph	0-15	23	19	16	21	17	14	18	14	12	15	12	10	12	10	8
	20	23	18	15	21	16	13	18	14	11	15	11	10	12	9	8
	30	23	17	14	21	15	12	18	13	11	15	10	9	12	8	7
	40	22	16	13	19	14	12	16	12	10	14	10	8	11	8	7
	50	20	15	13	18	13	11	15	11	10	13	9	8	10	8	6
	60	19	14	12	17	13	11	14	11	9	12	9	8	10	7	6
100 mph	0-15	19	16	13	17	14	11	14	12	10	12	10	8	9	8	6
	20	19	15	12	17	13	11	14	11	9	12	9	8	9	7	6
	30	19	14	11	17	12	10	14	10	9	12	8	7	9	7	6
	40	17	13	11	15	11	10	13	10	8	11	8	7	9	6	5
	50	16	12	10	14	11	9	12	9	8	10	8	7	8	6	5
	60	16	12	10	14	10	9	12	9	8	10	7	6	8	6	5
110 mph	0-15	16	13	11	14	11	9	12	10	8	10	8	7	8	6	5
	20	16	12	10	14	11	9	12	9	8	10	8	6	8	6	5
	30	16	11	9	14	10	8	12	8	7	10	7	6	8	6	5
	40	14	11	9	13	9	8	11	8	7	9	7	6	7	5	4
	50	14	10	9	12	9	8	10	8	6	8	6	5	7	5	4
	60	13	10	8	11	9	7	10	7	6	8	6	5	6	5	4
120 mph	0-15	13	11	9	12	10	8	10	8	7	8	7	6	7	5	4
	20	13	10	9	12	9	7	10	8	6	8	6	5	7	5	4
	30	13	9	8	12	8	7	10	7	6	8	6	5	7	5	4
	40	12	9	8	11	8	7	9	7	6	8	6	5	6	4	4
	50	11	8	7	10	7	6	9	6	5	7	5	5	6	4	4
	60	11	8	7	10	7	6	8	6	5	7	5	4	5	4	4
130 mph	0-15	11	9	8	10	8	7	8	7	6	7	6	5	6	5	4
	20	11	9	7	10	8	6	8	7	5	7	5	5	6	4	4
	30	11	8	7	10	7	6	8	6	5	7	5	4	6	4	-
	40	10	8	6	9	7	6	8	6	5	6	5	4	5	4	-
	50	10	7	6	9	6	5	7	5	5	6	5	4	5	4	-
	60	9	7	6	8	6	5	7	5	5	6	4	4	5	-	-
140 mph	0-15	10	8	7	8	7	6	7	6	5	6	5	4	5	4	-
	20	10	8	6	8	7	6	7	6	5	6	5	4	5	4	-
	30	10	7	6	8	6	5	7	5	4	6	4	4	5	-	-
	40	9	7	6	8	6	5	7	5	4	6	4	-	4	-	-
	50	8	6	5	7	5	5	6	5	4	5	4	-	4	-	-
	60	8	6	5	7	5	5	6	5	4	5	4	-	4	-	-
150 mph	0-15	8	7	6	7	6	5	6	5	4	5	4	4	4	-	-
	20	8	7	5	7	6	5	6	5	4	5	4	-	4	-	-
	30	8	6	5	7	5	4	6	5	4	5	4	-	4	-	-
	40	8	6	5	7	5	4	6	4	4	5	4	-	4	-	-
	50	7	5	5	6	5	4	5	4	-	5	-	-	4	-	-
	60	7	5	4	6	5	4	5	4	-	4	-	-	-	-	-

Notes to Table:

- Maximum basic wind speed shall be 150 mph.
- Interpolation to address building height and other plank widths is permitted.
- The lap conceals the fasteners of the previous course (Blind Nailed).
- 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s
- Based on ASCE 7-05 a pressure coefficient of 1.58 for h≤60ft, Importance factor of 1, Kzt = 1, Kd = 0.85

Table 2, HardiePlank™ Lap Siding or Artisan® Lap Siding Blind Screw – Wafer Head Screw Fastening Method

IBC® & IRC®/2006 Fastener: No. 8 X 1-5/8" Long X 0.375" Head Diameter Ribbed Wafer Head Screw - Blind Screwed ³ Table Shows Allowable Fastener Spacing ⁵ (inches) for 5/16" Hardiplank™ Lap Siding fastened to APA rated minimum 7/16" thick OSB Sheathing 5/8" Artisan® Lap Siding fastened to APA rated minimum 7/16" thick OSB Sheathing																
Basic Wind Speed	Building Height (feet)	5¼ -inch wide			6¼- & 6½-inch wide			7¼- & 7½-inch wide			8- & 8¼-inch wide			9¼- & 9½-inch wide		
		Exposure			Exposure			Exposure			Exposure			Exposure		
		B	C	D	B	C	D	B	C	D	B	C	D	B	C	D
90 mph	0-15	24	24	24	24	24	24	24	24	24	24	24	24	24	23	19
	20	24	24	24	24	24	24	24	24	24	24	24	24	24	22	18
	30	24	24	24	24	24	24	24	24	24	24	24	22	24	20	17
	40	24	24	24	24	24	24	24	24	24	24	24	21	24	19	16
	50	24	24	24	24	24	24	24	24	24	24	24	20	24	18	16
	60	24	24	24	24	24	24	24	24	24	24	24	20	24	18	15
100 mph	0-15	24	24	24	24	24	24	24	24	24	24	24	20	23	19	16
	20	24	24	24	24	24	24	24	24	24	24	23	24	18	15	
	30	24	24	24	24	24	24	24	24	23	24	21	18	23	16	14
	40	24	24	24	24	24	24	24	24	21	24	20	17	21	15	13
	50	24	24	24	24	24	24	24	24	21	24	19	16	20	15	13
	60	24	24	24	24	24	24	24	24	20	24	19	16	19	14	12
110 mph	0-15	24	24	24	24	24	24	24	24	21	24	20	17	19	16	13
	20	24	24	24	24	24	24	24	20	24	19	16	19	15	12	
	30	24	24	24	24	24	22	24	19	24	18	15	19	14	11	
	40	24	24	24	24	24	21	24	18	23	17	14	17	13	11	
	50	24	24	23	24	24	20	24	17	21	16	14	16	12	10	
	60	24	24	23	24	23	20	24	17	20	15	13	16	12	10	
120 mph	0-15	24	24	24	24	24	21	24	18	21	17	14	16	13	11	
	20	24	24	23	24	24	20	24	17	21	16	13	16	12	10	
	30	24	24	22	24	22	19	24	16	21	15	13	16	11	10	
	40	24	24	20	24	21	18	24	15	19	14	12	15	11	9	
	50	24	23	20	24	20	17	22	14	18	13	11	14	10	9	
	60	24	22	19	24	19	16	21	14	17	13	11	13	10	9	
130 mph	0-15	24	24	21	24	22	18	22	15	18	15	12	14	11	9	
	20	24	24	20	24	20	17	22	14	18	14	11	14	11	9	
	30	24	22	18	24	19	16	22	13	18	13	11	14	10	8	
	40	24	20	17	24	18	15	20	13	16	12	10	13	9	8	
	50	24	20	17	23	17	14	19	12	15	11	10	12	9	7	
	60	24	19	16	22	16	14	18	12	15	11	9	11	8	7	
140 mph	0-15	24	22	18	23	19	15	19	13	15	13	10	12	10	8	
	20	24	20	17	23	18	15	19	12	15	12	10	12	9	8	
	30	24	19	16	23	16	14	19	12	15	11	9	12	8	7	
	40	24	18	15	21	15	13	18	11	14	10	9	11	8	7	
	50	23	17	14	20	15	12	16	11	13	10	8	10	8	6	
	60	22	16	14	19	14	12	16	10	13	9	8	10	7	6	
150 mph	0-15	23	19	16	20	16	13	17	11	13	11	9	10	8	7	
	20	23	18	15	20	15	13	17	11	13	10	9	10	8	7	
	30	23	16	14	20	14	12	17	10	13	9	8	10	7	6	
	40	21	15	13	18	13	11	15	10	12	9	8	9	7	6	
	50	20	15	13	17	13	11	14	9	11	9	7	9	7	6	
	60	19	14	12	16	12	11	14	9	11	8	7	8	6	5	

Notes to Table:

- Maximum basic wind speed shall be 150 mph.
- Interpolation to address building height and other plank widths is permitted.
- The lap conceals the fasteners of the previous course (Blind Screwed).
- 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s
- Based on ASCE 7-05 a pressure coefficient of 1.58 for h≤60ft, Importance factor of 1, Kzt = 1, Kd = 0.85

Table 3, HardiePanel™ Vertical Siding – Siding Nail Method or Wafer Head Screw Method

IBC® & IRC®/2006 Allowable Fastener Spacing HardiePanel™ Vertical Siding fastened to APA rated minimum 7/16" thick OSB Sheathing															
Basic Wind Speed (3-second gust MPH)	Building Height (feet)	Fastener: 0.092" Shank X 0.222" Head Diameter X 2" Long (6d) Galvanized Siding Nail						No. 8 X 1-5/8" Long X 0.375" Head Diameter Ribbed Wafer Head Screw							
		Exposure						Exposure							
		B		C		D		B		C		D			
		Fastener Spacing		Fastener Spacing		Fastener Spacing		Fastener Spacing		Fastener Spacing		Fastener Spacing			
Vertical ⁴		Horizontal ⁵		Vertical ⁴		Horizontal ⁵		Vertical ⁴		Horizontal ⁵		Vertical ⁴		Horizontal ⁵	
90 mph	0-15	7	12	6	12	5	12	17	12	14	12	11	12		
	20	7	12	6	12	5	12	17	12	13	12	11	12		
	30	7	12	5	12	4	12	17	12	12	12	10	12		
	40	7	12	5	12	4	12	15	12	11	12	10	12		
	50	6	12	5	12	-	-	14	12	11	12	9	12		
60	6	12	4	12	-	-	14	12	10	12	9	12			
100 mph	0-15	6	12	5	12	-	-	13	12	11	12	9	12		
	20	6	12	4	12	-	-	13	12	10	12	9	12		
	30	6	12	4	12	-	-	13	12	10	12	8	12		
	40	5	12	-	-	-	-	12	12	9	12	8	12		
	50	5	12	-	-	-	-	12	12	9	12	7	12		
60	5	12	-	-	-	-	11	12	8	12	7	12			
110 mph	0-15	5	12	-	-	-	-	11	12	9	12	8	12		
	20	5	12	-	-	-	-	11	12	9	12	7	12		
	30	5	12	-	-	-	-	11	12	8	12	7	12		
	40	4	12	-	-	-	-	10	12	7	12	6	12		
	50	4	12	-	-	-	-	10	12	7	12	6	12		
60	-	12	-	-	-	-	9	12	7	12	6	12			
120 mph	0-15	4	12	-	-	-	-	9	12	8	12	6	12		
	20	4	12	-	-	-	-	9	12	7	12	6	12		
	30	4	12	-	-	-	-	9	12	7	12	6	12		
	40	-	-	-	-	-	-	9	12	6	12	5	12		
	50	-	-	-	-	-	-	8	12	6	12	5	12		
60	-	-	-	-	-	-	8	12	6	12	5	12			
130 mph	0-15	-	-	-	-	-	-	8	12	7	12	5	12		
	20	-	-	-	-	-	-	8	12	6	12	5	12		
	30	-	-	-	-	-	-	8	12	6	12	5	12		
	40	-	-	-	-	-	-	7	12	5	12	5	12		
	50	-	-	-	-	-	-	7	12	5	12	4	12		
60	-	-	-	-	-	-	7	12	5	12	4	12			
140 mph	0-15	-	-	-	-	-	-	7	12	6	12	5	12		
	20	-	-	-	-	-	-	7	12	5	12	4	12		
	30	-	-	-	-	-	-	7	12	5	12	4	12		
	40	-	-	-	-	-	-	6	12	5	12	-	-		
	50	-	-	-	-	-	-	6	12	4	12	-	-		
60	-	-	-	-	-	-	6	12	4	12	-	-			
150 mph	0-15	-	-	-	-	-	-	6	12	5	12	4	12		
	20	-	-	-	-	-	-	6	12	5	12	-	-		
	30	-	-	-	-	-	-	6	12	4	12	-	-		
	40	-	-	-	-	-	-	6	12	4	12	-	-		
	50	-	-	-	-	-	-	5	12	-	-	-	-		
60	-	-	-	-	-	-	5	12	-	-	-	-			

Notes to Table:

1. Maximum basic wind speed shall be 150 mph.
2. Interpolation to address building height and other plank widths is permitted.
3. 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s
4. Vertical Fastener Spacing refers to fasteners spaced from ground towards roof
5. Horizontal Fastener Spacing refers to fasteners spaced parallel to the ground
6. Based on ASCE 7-05 a pressure coefficient of 1.58 for height ≤ 60 feet, Importance Factor of 1, Kzt = 1, Kd = 0.85



Additional Installation Information, Warranties, and Warnings are available at www.jameshardie.com

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