

HardiePlank® **HL5** Lap Siding

INSTALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS



EFFECTIVE AUGUST 2011



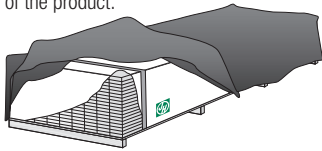
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IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE INSTRUCTIONS. TO DETERMINE WHICH HARDIEZONE APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry planks on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.



CUTTING INSTRUCTIONS

OUTDOORS

- Position cutting station so that wind will blow dust away from user and others in working area.
- Use one of the following methods:
 - Best: i. Shears (manual, electric or pneumatic)
 - Better: i. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
 - Good: i. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)

INDOORS

- Cut only using shears (manual, electric or pneumatic).
 - Position cutting station in well-ventilated area
- NEVER use a power saw indoors
 - NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
 - NEVER dry sweep – Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible.

NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

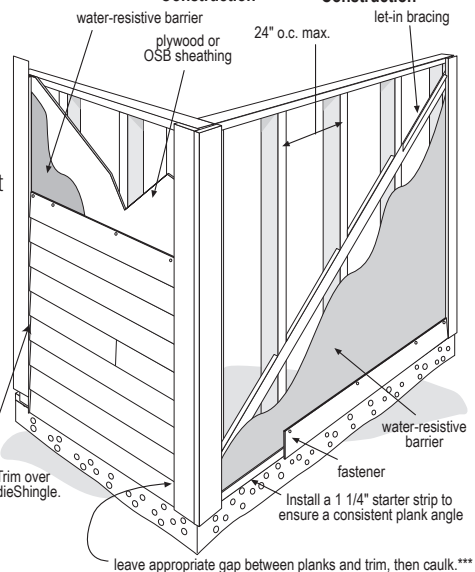
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IMPORTANT: To prevent damage to the drip edge, extra care should be taken when removing planks from the pallet, while handling, and when installing with a lap gauge. Please see additional handling requirements on page 4.

GENERAL REQUIREMENTS:

- References to the 2005 National Building Code (NBC) of Canada are made throughout this document. Local building code requirements may supersede the NBC in some locations.
- Where local building code requires a capillary break (Rainscreens, Furring, Etc.), fastener specifications per the CCMC can still be used as long as the required fastener penetration is achieved into an approved nailable substrate.
- HardiePlank® lap siding can be installed over braced wood or steel studs spaced a maximum of 610mm (24") o.c. or directly to minimum 11.1mm (7/16") thick OSB sheathing*. Irregularities in framing and sheathing can mirror through the finished application. HardiePlank lap siding can also be installed over furring strips (in accordance with local building code requirements).
- HardiePlank lap siding can also be installed over foam insulation/sheathing up to 25mm (1") thick. When using foam insulation/sheathing, avoid over-driving nails (fasteners), which can result in dimpling of the siding due to the compressible nature of the foam insulation/sheathing. Extra caution is necessary if power-driven nails (fasteners) are used for attaching siding over foam insulation/sheathing.
- A water-resistive barrier is required in accordance with Part 9.27.3.2 of the NBC. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with Part 9.27.3 of the NBC. **James Hardie will assume no responsibility for water infiltration.**
- When installing James Hardie products all clearance details in figs. 3, 4, 5, 6, 7, 8 & 9 must be followed.
- Adjacent finished grade must slope away from the building in accordance with local building codes.
- Do not use HardiePlank® lap siding in Fascia or Trim applications.
- Do not install James Hardie products, such that they may remain in contact with standing water.
- HardiePlank lap siding may be installed on flat vertical wall applications only.
- DO NOT use stain on James Hardie® products.
- For larger projects, including commercial and multi-family projects, where the span of the wall is significant in length, the designer and/or architect should take into consideration the coefficient of thermal expansion and moisture movement of the product in their design. These values can be found in the Technical Bulletin "Expansion Characteristics of James Hardie® Siding Products" at www.JamesHardie.com.

Figure 1 Double Wall Construction Single Wall Construction



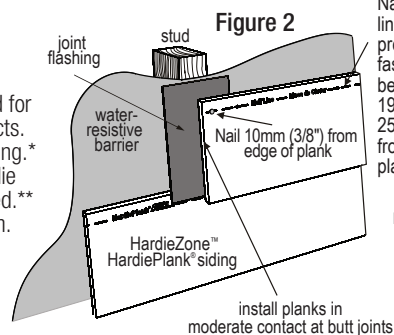
INSTALLATION:

JOINT TREATMENT

- Joint flashing behind field butt joints is required for ColorPlus and recommended for primed products.
- DO NOT Caulk field butt joints on ColorPlus siding.*
- It is OK to Caulk field butt joints on James Hardie primed siding products that is to be field painted.**
- DO caulk where HardiePlank meets vertical trim.

*Note: Caulking at field butt joints is not recommended for ColorPlus for aesthetic reasons as the caulking and ColorPlus will weather differently.

Note: Field painting over caulking may produce a sheen difference when compared to the field painted PrimePlus. *Refer to Caulking section in these instructions.



Nail line (If nail line is not present place fastener between 19mm (3/4") & 25mm (1") from top of plank)

install planks in moderate contact at butt joints

WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade® saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

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CLEARANCES

Install siding and trim products in compliance of Part 9.27.2.4 of the NBC which requires a minimum 200mm (8") for clearance between the bottom edge of the siding and the adjacent finished grade.

Maintain a 50mm (2") minimum clearance between James Hardie® products and paths, steps and driveways.

Maintain a 50mm (2") minimum clearance between James Hardie products and decking material.

At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be installed per the roofing manufacturer's instructions. Part 9.27.2.4 requires a minimum 50mm (2") clearance between the roofing and the bottom edge of the siding and trim.

Figure 5

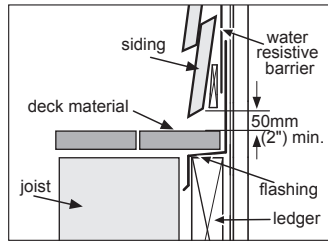


Figure 3

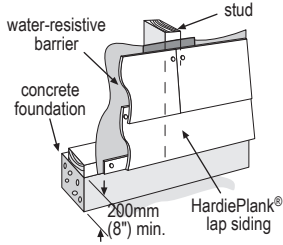


Figure 4

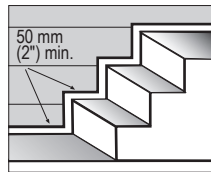
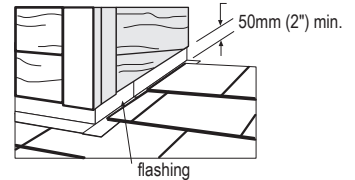


Figure 6



Maintain a 6mm (1/4") clearance between the bottom of James Hardie products and horizontal flashing. Do not caulk gap.

Maintain a minimum 25mm (1") gap between gutter end caps and siding & trim.

Figure 7

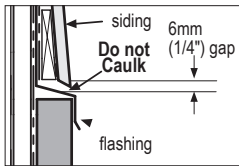


Figure 8

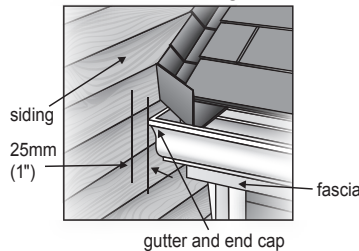
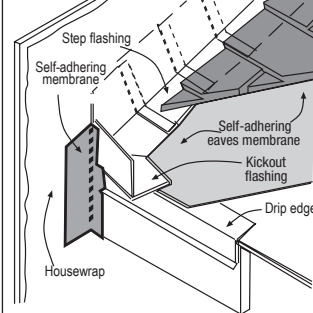


Figure 9



KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding.

It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 15, Kickout Flashing† To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3 : "... flashing shall be a min. of 100mm (4") high and 100mm (4") wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection

FASTENER REQUIREMENTS**

Blind Nailing is the preferred method of installation for HardiePlank® lap siding products. Face nailing should only be used where required for high wind areas and must not be used in conjunction with Blind nailing (Please see JH Tech bulletin 17 for exemption when doing a repair). For Fastening schedule refer to Wind Load Table on page 4 of this document. **Pin-backed corners may be done for aesthetic purposes only. Pin-backs shall be done w/finish nails only, and are not a substitute for blind or face nailing.**

BLIND NAILING

Corrosion Resistant Nails (galvanized or stainless steel)

- Roofing nail (3 mm shank x 9.5 mm HD x 32 mm (1 1/4") long)
- Minimum Requirement: Siding nail (2.4 mm shank x 5.6 mm HD x 50 mm (2") long)

Corrosion Resistant Screws

- Ribbed wafer-head or equivalent (No. 8 x 9.5 mm HD x 32 mm (1 1/4") long). Screws must penetrate 6 mm or 3 full threads into metal framing.

Corrosion Resistant Fasteners

ET & F Panelfast (2.5mm shank x 8mm HD x 38mm (1 1/2") long)

FACE NAILING

Corrosion Resistant Nails (galvanized or stainless steel)

- 6d common nail (2.9 mm shank x 6.7 mm HD x 50 mm (2") long)
- Siding nail (2.3 mm shank x 5.6 mm HD x 50 mm (2") long)
- Siding nail (2.3 mm shank x 5.6 mm HD x 38 mm (1 1/2") long)*

Corrosion Resistant Screws

Ribbed bugle-head or equivalent (No. 8-18 x 8.2 mm HD x 41 mm (1 5/8") long). Screws must penetrate 6 mm or 3 threads into metal framing.

Corrosion Resistant Fasteners

ET & F pin (2.5mm shank x 6.4mm HD x 38mm (1 1/2") long)

Figure 10

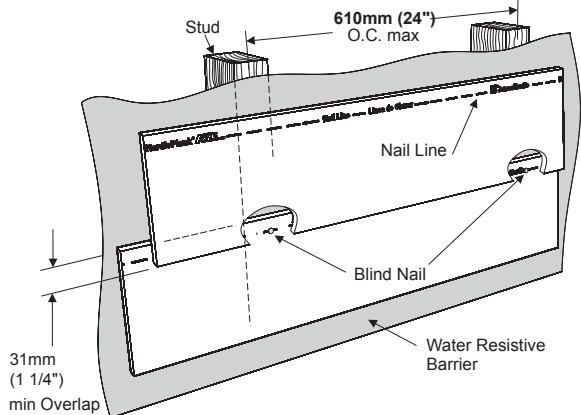
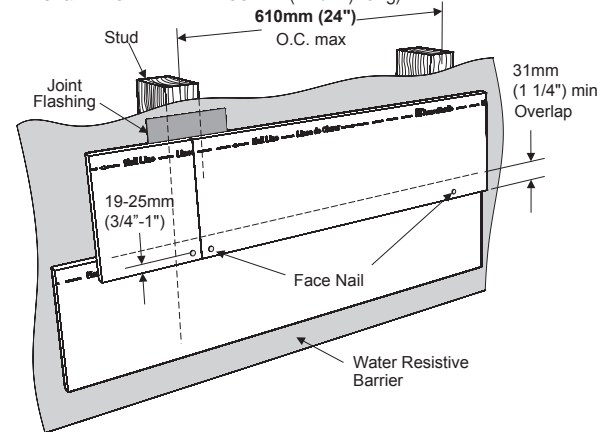
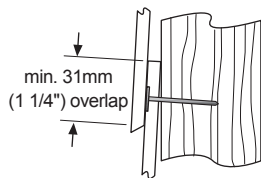


Figure 11

Minimum overlap for Both Face and Blind Nailing



Laminate sheet to be removed immediately after installation of each course for ColorPlus® products.

† The illustration (figure 9) and associated text was reprinted with permission of THE JOURNAL OF LIGHT CONSTRUCTION. For subscription information, visit www.jlconline.com.

* When face nailing to OSB, planks must be no greater than 8 1/4" wide and fasteners must be 305mm (12") o.c. or less.

** Also see General Fastening Requirements.

GENERAL FASTENING REQUIREMENTS

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or in very humid climates.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5.

- Consult applicable code compliance report for correct fasteners type and placement to achieve specified design wind loads.
- NOTE: Published wind loads may not be applicable to all areas where Local Building Codes have specific jurisdiction. Consult James Hardie Technical Services if you are unsure of applicable compliance documentation.
- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space). (fig. A)
- Do not over-drive nail heads or drive nails at an angle.
- If nail is countersunk, caulk nail hole and add a nail. (fig. B)
- For wood framing, under driven nails should be hit flush to the plank with a hammer (For steel framing, remove and replace nail).
- NOTE: Whenever a structural member is present, HardiePlank should be fastened with even spacing to the structural member. The tables allowing direct to OSB or plywood should only be used when traditional framing is not available.
- Do not use aluminum fasteners, staples, or clipped head nails.



PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. **Note: OSI Quad as well as some other caulking manufacturers do not allow tooling.**

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges.

PAINTING

DO NOT use stain on James Hardie® products. James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up paint should be used sparingly. If large areas require touch-up, replace the damaged area with new HardiePlank® lap siding with ColorPlus Technology.
- Laminate sheet must be removed immediately after installation of each course.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coat, available from your ColorPlus product dealer.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd base paints on James Hardie® products
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature

COVERAGE CHART/ESTIMATING GUIDE

Number of 12' planks, does not include waste

COVERAGE AREA LESS OPENINGS		HARDIEPLANK SIDING WIDTH						
SQ (1 SQ = 100 sq.ft.)	Sq. Meters (1 SQ = 9.29)	(exposure)	5 1/4 4	6 1/4 5	7 1/4 6	7 1/2 6 1/4	8 6 3/4	8 1/4 7
1	(9.29)	25	20	17	16	15	14	
2	(18.58)	50	40	33	32	30	29	
3	(27.87)	75	60	50	48	44	43	
4	(37.16)	100	80	67	64	59	57	
5	(46.45)	125	100	83	80	74	71	
6	(55.74)	150	120	100	96	89	86	
7	(65.03)	175	140	117	112	104	100	
8	(74.32)	200	160	133	128	119	114	
9	(83.61)	225	180	150	144	133	129	
10	(92.9)	250	200	167	160	148	143	
11	(102.19)	275	220	183	176	163	157	
12	(111.48)	300	240	200	192	178	171	
13	(120.77)	325	260	217	208	193	186	
14	(130.06)	350	280	233	224	207	200	
15	(139.35)	375	300	250	240	222	214	
16	(148.64)	400	320	267	256	237	229	
17	(157.93)	425	340	283	272	252	243	
18	(167.22)	450	360	300	288	267	257	
19	(176.51)	475	380	317	304	281	271	
20	(185.8)	500	400	333	320	296	286	

This coverage chart is meant as a guide. Actual usage is subject to variables such as building design. James Hardie does not assume responsibility for over or under ordering of product.

RECOGNITION: In accordance with ICC-ES Legacy Report NER-405, HardiePlank lap siding is recognized as a suitable alternate to that specified in: the BOCA National Building Code/1999, the 1997 Standard Building Code, the 1997 Uniform Building Code, the 1998 International One- and Two-Family Dwelling Code, the 2003 International Building Code, and the 2003 International Residential Code for One- and Two-Family Dwellings. HardiePlank lap siding is also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida listing FL#889, Dade County, Florida NOA No. 02-0729.02, U.S. Dept. of HUD Materials Release 1263c, Texas Department of Insurance Product Evaluation EC-23, City of New York MEA 223-93-M, and California DSA PA-019. These documents should also be consulted for additional information concerning the suitability of this product for specific applications.

COMPLIANCE:

HardiePlank® lap siding complies with ASTM Specification C1186 (Grade II, Type A) and ISO Standard 8336 (Category 3, Type A).

When tested in accordance with CAN/ULC-S102, the product is recognized to have the following properties: Flame Spread Rating: 0, Smoke Developed Classification: 0.

When tested in accordance with CAN/ULC-S114, the product is recognized as noncombustible.

RECOGNITION:

HardiePlank lap siding is recognized as an exterior wall cladding in CCMC Evaluation Report 12678-R. This document should also be consulted for additional information concerning the suitability of this product for specific applications. For technical assistance, call 1-800-9-HARDIE.

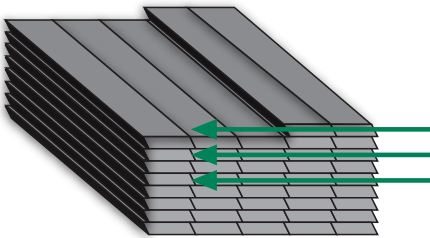
ADDITIONAL HANDLING REQUIREMENTS

IMPORTANT: To prevent damage to the drip edge, extra care should be taken when removing planks from the pallet, while handling, and when installing with a lap gauge. Planks are interlocked together on the pallet, therefore they should be removed from the pallet horizontally (side to side) to allow planks to unlock themselves from one another.

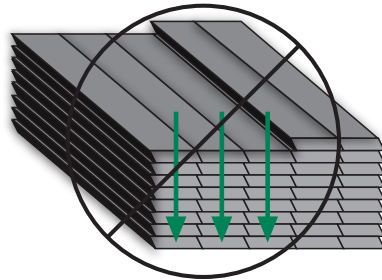
FIRE-RESISTIVE CONSTRUCTION:

HardiePlank lap siding is recognized as a component in 1-hour fire-related wall construction. Details of this assembly (Design No. JH/WA 60-04) may be found at: www.Intertek-ETLSemko.com

Pull from across the stack



Do not go down the stack



WIND LOAD TABLE

Refer to CCMC Evaluation Report 12678-R for steel stud application.

NOMINAL PRODUCT WIDTH (mm)	PRODUCT THICKNESS	FASTENER TYPE	NAILING	FRAME TYPES	MAXIMUM STUD SPACING	ULTIMATE LOAD @FAILURE	
						kPa	psf
<190 (7.5")	7.5mm (5/16")	Min. 2.4 mm shank x 5.6 mm HD x 50 mm (2") long galvanized roofing nail	Through top edge of plank	Nominal 2x4 wood 2	406mm (16")	4.39	92
203 (8") 210 (8.25")	7.5mm (5/16")	Min. 2.4 mm shank x 5.6 mm HD x 50 mm (2") long galvanized roofing nail	Through top edge of plank	Nominal 2x4 wood 2	406mm (16")	3.93	82
<241 (9.5") w/off stud/splice	7.5mm (5/16")	No. 11 ga. x 9.5 mm HD x 32 mm (1 1/4") long galvanized roofing nail	Through top edge of plank	Nominal 2x4 wood 1	406mm (16") 610mm (24")	6.77 4.41	141 92
<241 (9.5")	7.5mm (5/16")	2.3 mm shank x 5.6 mm HD x 50 mm (2") long galvanized siding nail	Through Overlap	Nominal 2x4 wood 2	406mm (16")	5.08	106
<241 (9.5")	7.5mm (5/16")	6d common 50 mm long (2")	Through Overlap	Nominal 2x4 wood 1	406mm (16") 610mm (24")	9.53 4.50	199 94
305 (12")	7.5mm (5/16")	6d common 50 mm long (2")	Through Overlap	Nominal 2x4 wood 1	610mm (24")	3.60	75
<241 (9.5")	7.5mm (5/16")	38 mm (1 1/2") long with head dia. 5.7 mm and shank dia. 2.3 mm galvanized siding nails	Through Overlap	7/16" mm OSB rated sheathing	NA	3.45	72

WIND LOAD TABLE FOOT NOTES:

1. Values are for species of wood having a specific gravity of 0.42 or greater.
2. Values are for species of wood having a specific gravity of 0.36 or greater.

METRIC TO IMPERIAL CONVERSION TABLE

The following table provides a conversion of the nominal metric measurements presented in these installation instructions to nominal Imperial fraction measurement values

mm	inches	mm	inches	mm	inches	mm	inches
2.3	3/32	7.5	5/16	32	1-1/4	203	8
2.4	3/32	8.2	21/64	35	1-3/8	210	8-1/4
2.9 1/8		9.2	3/64	38	1-1/2	241	9-1/2
3.1	/8	9.5	3/8	41	1-5/8	305	12
5.6	7/32	11.1	7/16	50	2	406	16
5.7	7/32	12	15/32	91	3-5/8	610	24
6.1	5/64	19	3/4	150	6		
6.7	17/64	25	1	190	7-1/2		

