

HardiePlank

HardiePlank® Lap Siding Product Description

HardiePlank® lap siding is factory-primed fiber-cement lap siding available in a variety of styles and textures. Please see your local James Hardie® product dealer for product availability. HardiePlank lap siding comes in 3657mm (12') lengths. Nominal widths from 133mm (5 1/4") to 305mm (12") create a range of exposures from 100mm (4") to 210mm (10 3/4").

HardiePlank lap siding is also available with ColorPlus® Technology as one of James Hardie's prefinished products. ColorPlus® Technology is a factory applied, oven-baked finish available on a variety of James Hardie siding and trim products. See your local dealer for details and availability of products, colors, and accessories.

The HZ5™ product line is right at home in climates with freezing temperatures, seasonal temperature variations, snow and ice. HZ5™ boards are the result of our generational evolution of our time-tested products. We've evolved our substrate composition to be specifically designed to perform in conditions found in these climates. To ensure that its beauty matches its durability, we've engineered the surface for higher performance, giving it superior paint adhesion and moisture resistance. In addition, we've added a drip edge to the HardiePlank® HZ5™ lap siding product to provide improved water management in conditions specific to HZ5™ climates.



CedarMill®



Smooth



Beaded CedarMill®



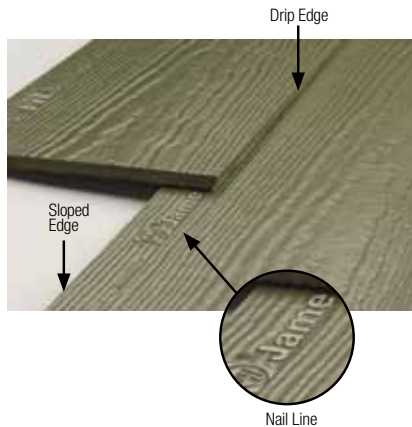
Beaded Smooth



Colonial Roughsawn



Colonial Smooth

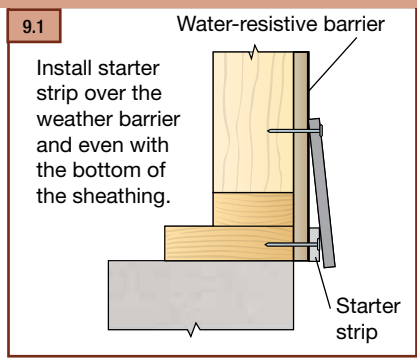


Installation of HardiePlank® Lap Siding

INSTALL A STARTER STRIP

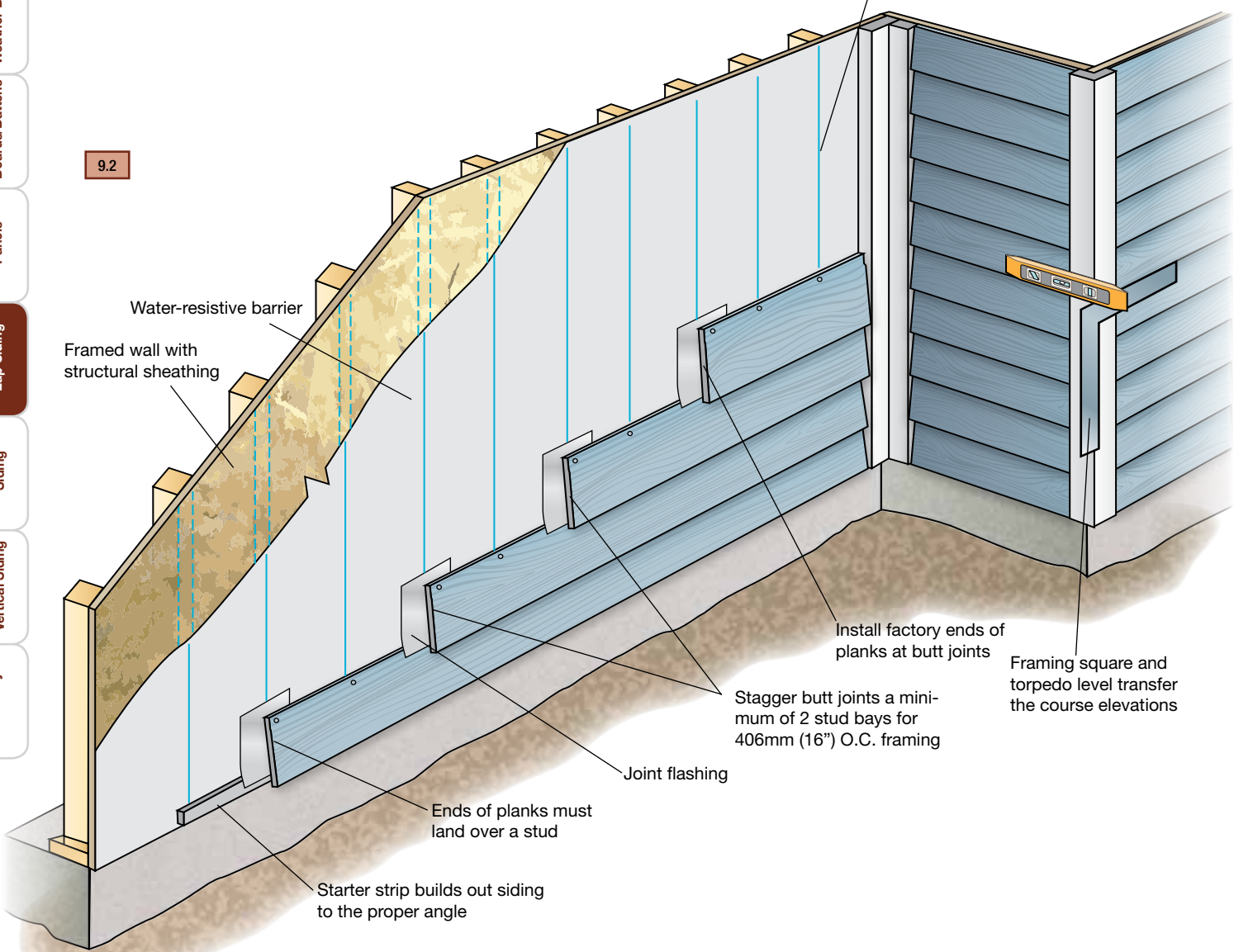
HardiePlank® lap siding requires a starter strip beneath the first course to set it on the proper angle and to create a proper drip edge at the bottom of the siding. Starter strips are easily made by ripping 32mm (1 ¼") pieces of HardiePlank siding from full or partial planks.

The bottom of the starter strip should be installed even with the bottom of the mudsill or the bottom edge of the sheathing. The strip must be installed over the water-resistive barrier, but occasional gaps should be left in the starter strip to allow accumulated moisture behind the siding to drain away safely.



OVERVIEW OF HARDIEPLANK LAP SIDING

TIP: For accurate fastening, snap vertical chalk lines on the water-resistive barrier at the center of every stud location.

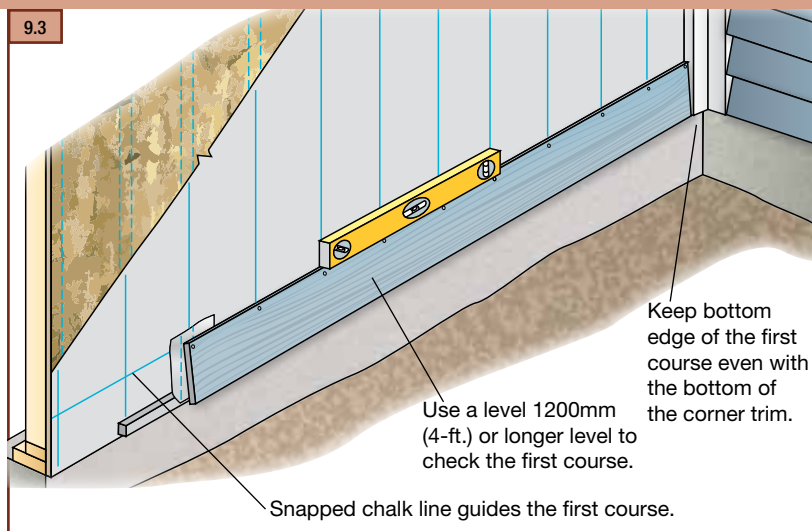


INSTALLING THE PLANKS

The first course of HardiePlank® siding is critical to the proper installation of the plank on the rest of the building. The first course should start at the lowest point of the house. Special attention should be made to ensure that it's straight and level. Attention should also be paid to staggering any butt joints in the planks so that the installation is attractive while making efficient use of material.

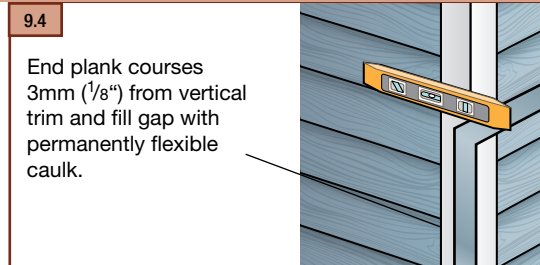
- 1) Use a level (1219mm (4') or longer) or chalked level line to be sure that the first course is level. As installation proceeds up the wall, periodically check the level and straightness of the courses. It is good practice to snap a chalk line every 3 to 5 courses to keep the planks straight and level.
- 2) Position the bottom edge of the first course of siding a minimum 6mm (1/4") below the edge of the starter strip and secure (check with local building codes).
- 3) Run the siding to the HardieTrim® board leaving a 3mm (1/8") gap between the siding and trim.

The bottom of the siding should be kept even with the bottom of the trim, or if desired, the trim may extend below the bottom of the siding. But the siding should never hang below the trim. When installing the first course make sure ground clearances are in accordance with James Hardie requirements and those of local codes.



PLANK ALIGNMENT AT CORNERS

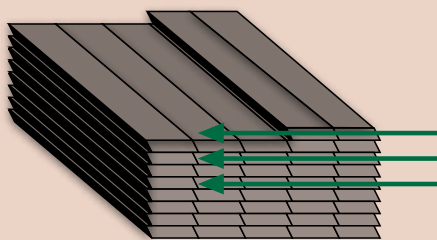
For the best looking installation, make sure that the heights of the plank courses match on both sides of a corner. Use a framing square, speed square or a level to match up the plank heights. Check every few courses to make sure proper heights are being maintained.



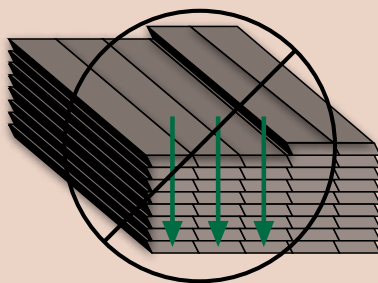
HANDLING

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

Pull from across the stack



Do not go down the stack



TIP: When taking planks from the pallet installation, avoid repeating the texture pattern by working across the pallet. Two to four planks can be removed from a stack at one time. But then material should be taken from adjacent stacks, again working across the pallet. Texture repeat is typically a concern on large walls with few breaks, such as windows or doors.

Installation of HardiePlank® Lap Siding (continued)

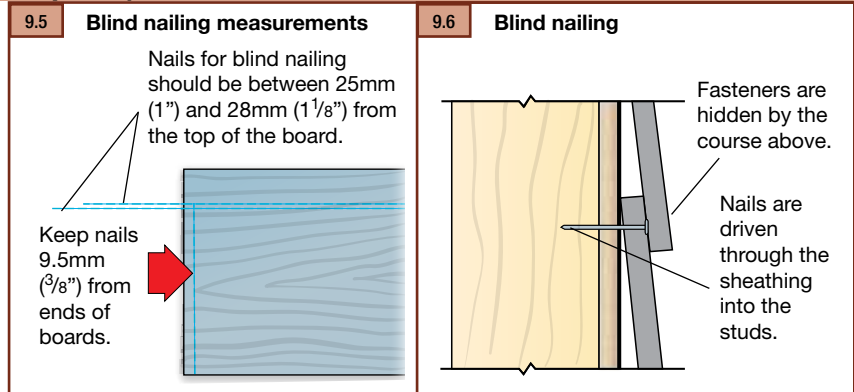
BLIND NAILING (nailing through top of plank)

Blind nailing is recommended for installing any type of HardiePlank® lap siding including ColorPlus® siding. With blind nailing, each course covers the fasteners on the course below, which provides a better looking installation.

For blind nailing HardiePlank lap siding, James Hardie recommends driving fasteners 28mm (1 1/8") from the top edge of the plank. Additionally fasteners should be placed no closer than 9.5mm (3/8") from the ends of the plank.

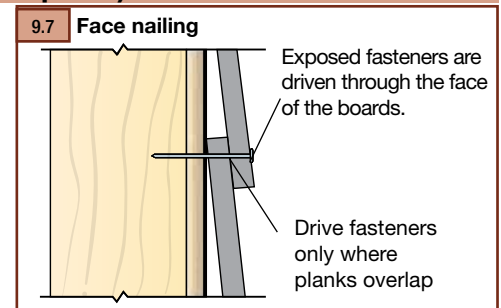
HardiePlank® HZ5™ Lap Siding is manufactured with a nail line that should be used as a guide for proper nail placement when blind nailing. This nail line should not be used as a lap line.

Avoid placing fasteners near the top edge of the plank. This practice, called "high nailing", may lead to loose planks, unwanted gaps or rattling. **Pinning of butt joints with a finish nail may be done for aesthetic purposes only. The finish nail should be nailed flush to the surface (not countersunk), must be fully corrosion resistant (e.g. galvanized or stainless) and does not provide any structural support.**



FACE NAILING (nailing through the overlap at the bottom of the plank)

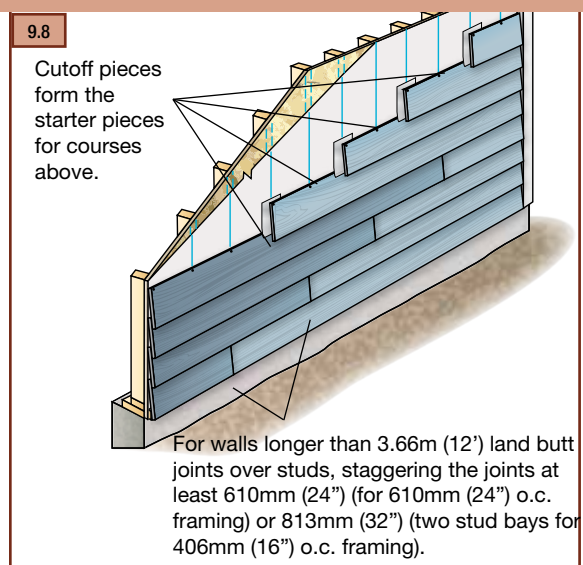
Although blind nailing is recommended by James Hardie, face nailing may be required for certain installations including: installations in high wind areas, fastening into OSB or equivalent sheathing without penetrating a stud, or when dictated by specific building codes. Refer to Appendix B for related code matters.



STAGGERING THE BUTT JOINTS

For walls longer than 3.66m (12') it is necessary to butt joint additional lengths of HardiePlank siding. These butt joints should be staggered to avoid noticeable patterns, which is determined by the placement of the first course. Butt joints between consecutive courses should be spaced apart by at least two stud bays for 406mm (16"), o.c. framing or one bay for 610mm (24") o.c. framing.

While random placement of the planks is usually the most aesthetically pleasing, a progressive stagger pattern can make the job easier and faster without the pattern becoming too noticeable. With this strategy, the cut off piece for one course becomes the starter piece for a course above, making efficient use of materials and ensuring that all butt joints land on studs. The pattern can be modified for different stud placement.



JOINT FLASHING

The recommended method for butting factory-finish ends for all HardiePlank® lap siding is moderate contact over a piece of joint flashing. **This method is required for joining ColorPlus® lap siding products.**

Flashing behind butt joints provides an extra level of protection against the entry of water at the joint. James Hardie recommends 152mm (6") wide flashing that overlaps the course below by 25mm (1") Some local building codes may require different size flashing.

Joint-flashing material must be durable, waterproof materials that do not react with cement products. Examples of suitable material include finished coil stock and code compliant water-resistive barriers. Other products may also be suitable.

***Refer to Appendix for more information.**

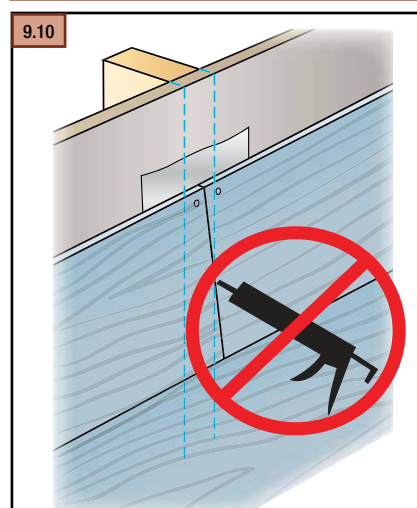
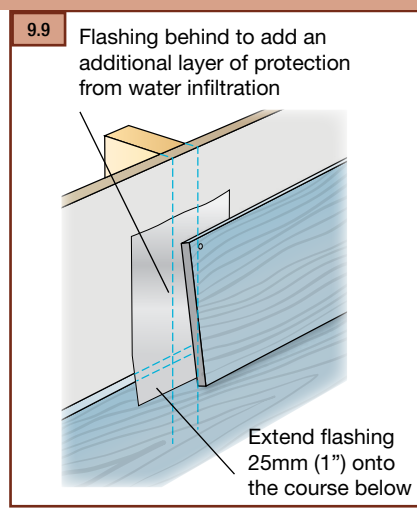
Summary of James Hardies position:

HardiePlank® Lap Siding with ColorPlus® Technology – Joint flashing behind field butt joints is required, the use of caulk will not be warranted.

HardiePlank® Lap Siding Primed – Recommend the use of joint flashing, but the use of caulk will not void the warranty.

TIP: Joint flashing can be quickly and easily made by cutting a 6-in. wide section off a roll of housewrap. Tape the roll tightly at the cut mark and cut the section off using a miter saw with a carbide blade. Individual sheets then can be cut to length with a utility knife.

TIP: Use light-colored joint flashing when using light-colored ColorPlus lap siding or other siding with a light-colored finish. Dark-color joint flashings should be used on siding with dark finishes.

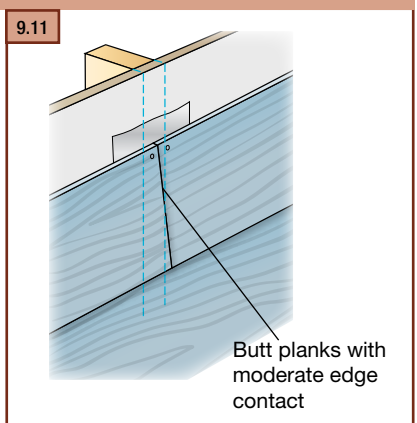


DO NOT use caulk on HardiePlank® lap siding with ColorPlus® Technology

JOINT PLACEMENT AND TREATMENT

Butt joints in HardiePlank lap siding should always land on a stud. Butt joints between studs are not recommended and should be avoided. Whenever possible, factory-finished ends should be used at butt joints.

Place cut ends where the siding meets a corner, door, window trim, or other break in the wall where the joint is to be caulked. If cut ends are used in a butt joint between planks, James Hardie requires painting or priming cut ends for primed products. For ColorPlus products, use the color-matched edge coater to finish the cut end.



COLORPLUS TIP: When installing HardiePlank lap siding with ColorPlus Technology, position the plank in the immediate area where the plank is to be fastened. Do not place the plank on the course below and slide into position. Doing so may scuff or scratch the ColorPlus finish on the installed piece.

Installation of HardiePlank® Lap Siding (continued)

CONTINUING THE INSTALLATION

Once the initial course of HardiePlank® siding is fastened to the wall, continue installing successive courses with full 3657mm (12") pieces (follow the stagger pattern for longer walls), or until a window, door or other opening interrupts the course (fig 8.9). Notch planks as needed to fit around windows and doors. Again, be sure to paint or prime cut edges. Avoid placing butt joints directly above or below windows or above doors. Separate the joint from the opening by at least one course of siding.

Where butt joints land on a stud, make sure there is enough stud space for plank on both sides of the joint to land properly. Optimally both sides of a butt joint should land in the middle of a stud with 19mm ($\frac{3}{4}$ ") landing space for each side. The minimum stud space for a plank to land is 10mm ($\frac{3}{8}$ ").

Pay special attention to window, doors, and corners that have been trimmed before the siding goes on. Vertical trim boards may cover the king studs beside windows or doors, or they may cover up corner studs leaving no room for nailing the siding. In these places add extra studs as needed.

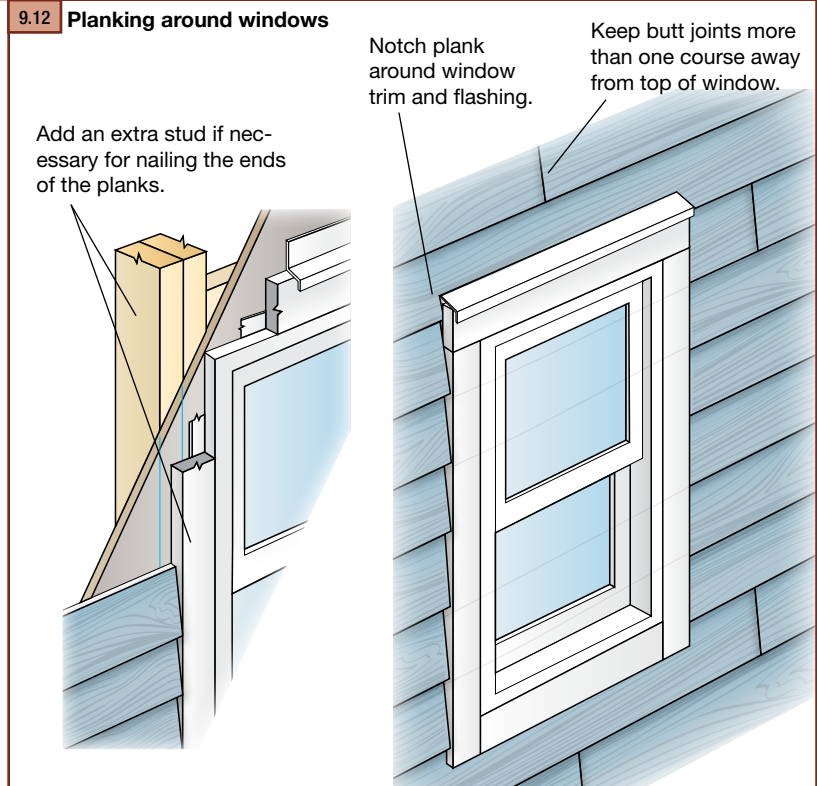
If corners are trimmed with 5/4, 4/4 HardieTrim® boards, it may be necessary to measure and cut the first pieces of siding to make sure the butt joints land on studs.

9.12 Planking around windows

Add an extra stud if necessary for nailing the ends of the planks.

Notch plank around window trim and flashing.

Keep butt joints more than one course away from top of window.



COLORPLUS TIP: HardiePlank lap siding with ColorPlus Technology is shipped with a protective laminate slip sheet, which should be left in place during cutting and fastening to reduce marring and scratching. The sheet should be removed immediately after each plank is installed.



INSTALLING HARDIEPLANK® SIDING ON GABLE WALLS

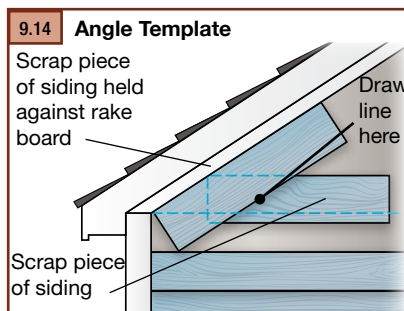
Siding gable walls can be challenging, and some of the keys to siding gable walls efficiently are determining the angle or pitch of the roof, properly staging materials, and ensuring that the plank lengths are measured accurately.

To estimate the amount of siding needed to complete a gable end, use the estimating tools located in Appendix C.

Stage enough material on the pump jacks or scaffolding to complete the gable end, but take care not to overload the staging. When possible, a cut table should be located on the pump jacks or scaffolding, which frees up crew members to work on other walls.

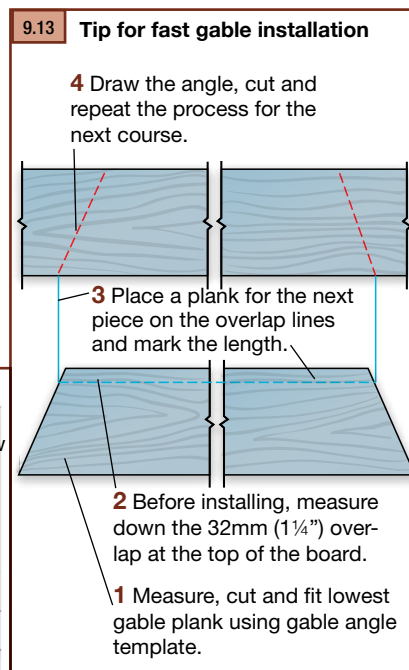
To cut planks for the gable:

- 1) Tack up a small scrap piece of siding where the first gable course is going.
- 2) Hold a second small piece of siding against the eave or rake board.
- 3) Trace the angle onto the scrap.
- 4) Cut that line and label the scrap as the template for the gable angle. The template can then be used to transfer the angle onto the larger pieces for cutting and installation.
- 5) Periodically check the angle as you progress up the wall.



The quickest way to measure and cut consecutive courses of siding for a gable is to work off the previous piece.

- 1) Cut and fit the lowest course of siding.
- 2) Before installing, lay it flat and measure down 32mm (1¼") from the top edge of the plank for the course overlap. Make a mark on both ends.
- 3) Set a piece of uncut siding on top of the first piece, aligning the bottom edge with the overlap marks. Transfer the length directly to the uncut piece.
- 4) Draw the gable angle with the template, cut the angle and then repeat the process for the next course.



HARDIEPLANK® SIDING FASTENER SPECIFICATIONS

Fastener Substrate	Fastener	Approved Fastener	Fastener Type
wood studs	blind nail	406mm (16") o.c.	2 3mm x 6.8mm 50.8mm (0.118" x 0.267" x 2")
		610mm (24") o.c.	3 2.3mm x 5.6mm x 50.8mm (0.089" x 0.221" x 2")
	face nail	406mm (16") o.c.	9 3.1mm x 9.4mm x 31.8mm ([11 GA] 0.121 x 0.371" x 1.25")
		610mm (24") o.c.	7 Ribbed Bugle-Head No. 8 8.2mm x 41.3mm (0.323" x 1.625")
steel studs*	blind nail	406mm (16") o.c.	8 8 9.5mm x 31.8mm (0.375" x 1.25")
		610mm (24") o.c.	12 2.5mm x 6.4mm x 38.1mm [AKN-100] (0.100" x 0.25" x 1.5")
	face nail	406mm (16") o.c.	13 2.5mm x 8mm x 38.1mm [AGS-100] (0.100" x 0.313" x 1.5")
		610mm (24") o.c.	14 [ASTM C-90] ASM-144-125 (P/C)
Direct to Masonry		14	15 9.5mm x 41.3mm Ribbed Wafer-Head No. 8 (0.375" x 1 5/8")
11.1mm (7/16") OSB or equivalent (blind nailed)		15 16	16 3mm x 9.4mm x 44.5mm [11 GA] (0.121 x 0.371" x 1.75")
11.1mm (7/16") OSB or equivalent (face nailed)		4	4 2.3mm x 5.6mm x 38.1mm (0.091" x 0.221" x 1.5")

*When blind fastening 241mm (9.5") or wider product onto steel studs, use screws.

● indicates recommended fasteners

TIP: Stainless steel fasteners are recommended when installing James Hardie® products.

Installation of HardiePlank® Lap Siding (continued)

RAIN SCREENS

The Optional Use of Rain Screen Systems:

James Hardie will support the use of its exterior siding products with rainscreen systems, but does not take sole responsibility for the entire wall assembly or system. James Hardie expects the designer or builder using our components as part of the rainscreen system to:

- Adhere to all the installation requirements listed in the relevant product installation instructions.
- Provide adequate details for water management.
- Make the decision about the use of rainscreen.
- Understand the interaction between system components and how each of the components in the system interacts.
- Design of the building envelope accounting for both interior and exterior moisture control.

Installation Over Furring:

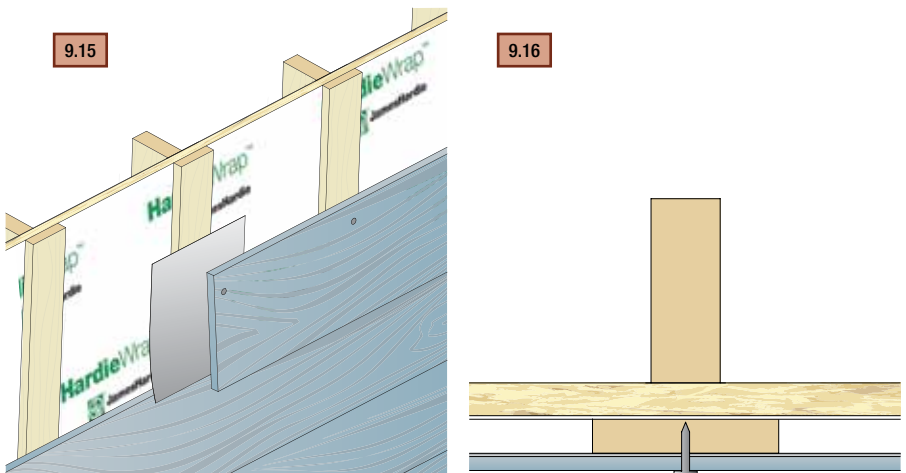
When reviewing the following details for attaching to wood furring or framing, an important consideration is that the fastener chosen must be fully encompassed by a wood substrate - the furring may count as all or part of the necessary penetration if it has been proven that the furring and/or wood substrate has the same or better holding power as a timber stud.

Design responsibility

In all cases it is the sole responsibility of the architect, envelope engineer or specifier to identify moisture related risks associated with any particular building design and to make any appropriate adjustments or modifications to the installation guidelines given by manufacturers. Wall construction and design must effectively manage moisture, considering both the interior and exterior environment of the building.

Attaching lap siding to wood furring:

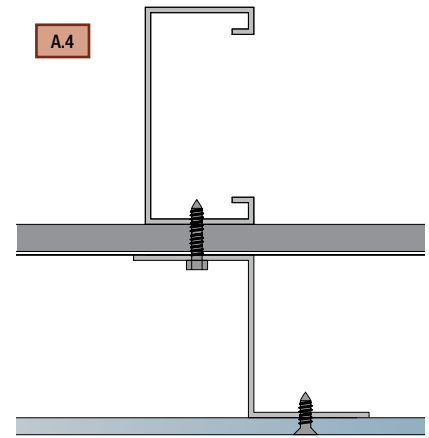
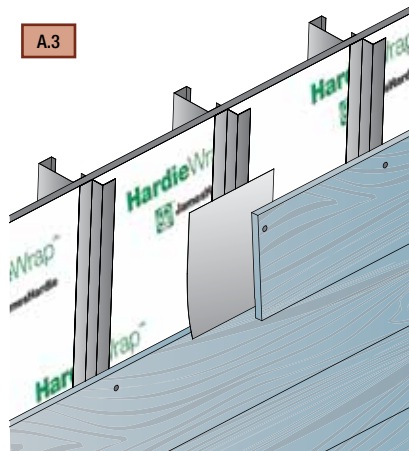
When attaching lap siding products over wood furring, the typical fastener used is the 32mm (1 ¼") long No. 11 ga. roofing nail, blind nailed. This fastener is going to be the shortest fastener approved for fastening lap siding products, therefore the furring must be a minimum of 19mm (0.75") thick to achieve the same values as CCMC states for the 11 ga. 32mm (1 ¼") roofing nail given plank reveal, stud spacing, building height and exposure category.



General Product Information
Working Safely
Tools for Cutting and Fastening
General Installation Requirements
General Fastener Requirements
Finishing and Maintenance
HardieWrap™ Weather Barrier
HardieTrim® Boards/Battens
HardieSoffit® Panels
HardiePlank® Lap Siding
HardieShingle® Siding
HardiePanel® Vertical Siding
Appendix/Glossary

Attaching lap siding to steel furring:

When attaching lap siding products to metal furring, the steel furring must be a minimum 20 gauge steel. A fastener should be chosen out of the CCMC, which is approved for attaching to steel framing, which is approved for attaching to steel framing. Two general rules that should be considered when choosing a fastener is that a nail (pin) must penetrate steel furring 6mm (1/4"), and screws must penetrate steel furring 3 full threads. Therefore, if the rules for steel fastening are followed – given plank reveal, stud spacing, building height, and exposure category – the values are the same as CCMC states for the chosen fastener.

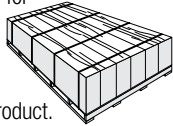


SELECT CEDARMILL® ▪ SMOOTH ▪ BEADED SELECT CEDARMILL®

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 product wet or saturated may result in shrinkage at butt joints. Carry product 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

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

INDOORS

1. Cut only using shears (manual, electric or pneumatic).
 2. 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.

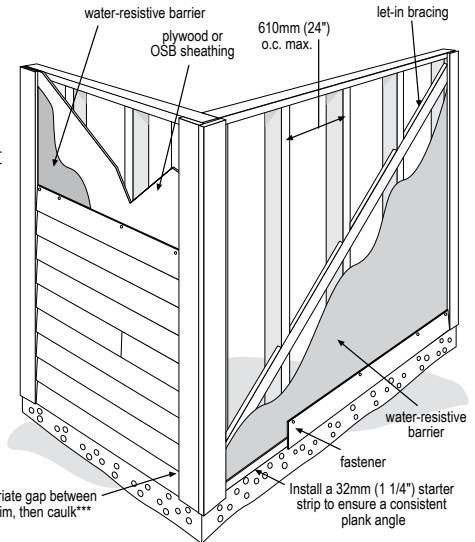
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IMPORTANT: To prevent damage to the drip edge, extra care should be taken when removing planks from the pallet, while handling, and when installing with a lap gauge. Please see additional handling requirements on page 4.

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

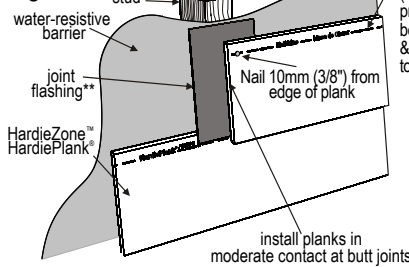


INSTALLATION:

JOINT TREATMENT†

(Required for ColorPlus® Finish, Recommended for Primed product) James Hardie does not recommend the use of caulk at field butt joints. Install factory finished edges together at butt joints.

Figure 2



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

† For other jointing options, refer to local building code.

*If only nailed directly to sheathing, plank can be a maximum 8 1/2" wide and must be face nailed at 305mm (12") o.c. or less with 2.3mm shank x 5.7mm HD x 38mm (1.5") long corrosion resistant nails.

**As required by local building code

***Apply caulk in accordance with caulk manufacturers written application instructions

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.

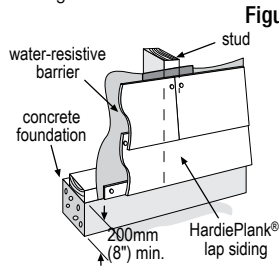


Figure 3

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

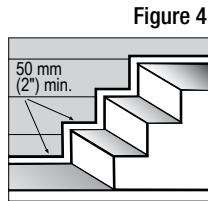


Figure 4

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

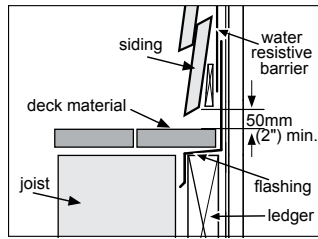


Figure 5

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.

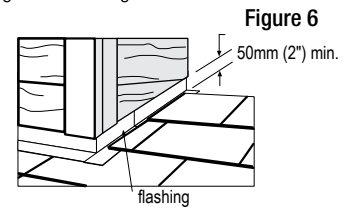


Figure 6

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

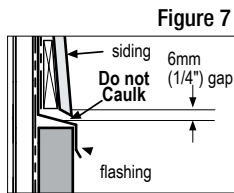


Figure 7

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

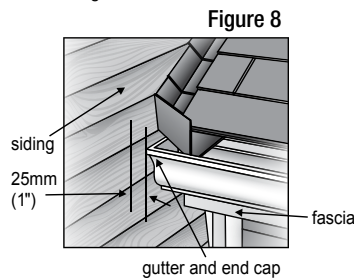


Figure 8

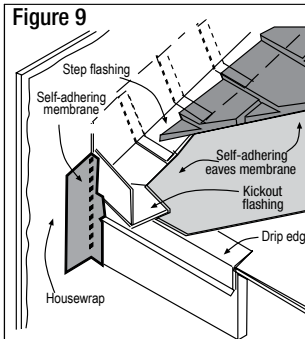


Figure 9

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 subsfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 9, Kickout Flashing † To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" of sufficient length and angle to direct the water running down the roof away from the siding.

FASTENER REQUIREMENTS**

Blind Nailing is the preferred method of installation for all HardiePlank® lap siding products

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 should only be used where required for high wind areas and must not be used in conjunction with Blind Nailing

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)

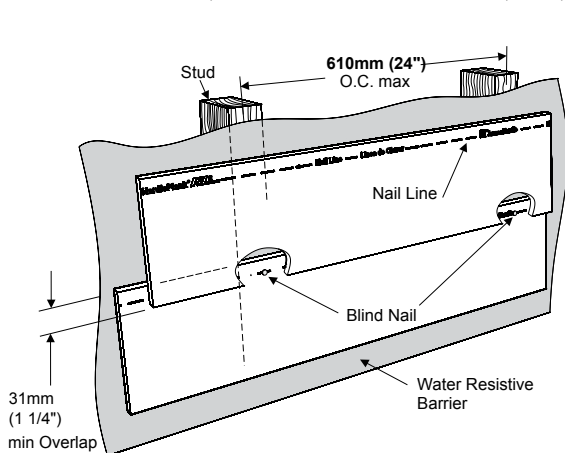


Figure 10

Minimum overlap for Both Face and Blind Nailing

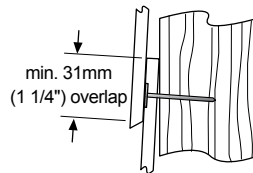
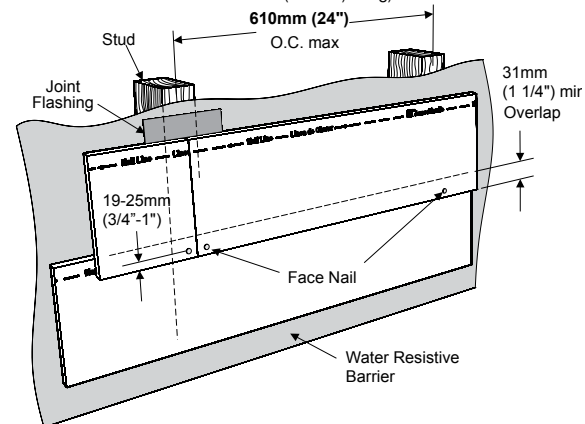


Figure 11



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.

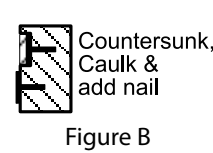
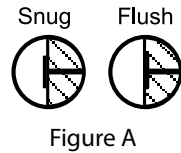
GENERAL FASTENING REQUIREMENTS

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.

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).

- 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).
- Do not use aluminum fasteners, staples, or clipped head nails.



CUT EDGE TREATMENT

All field cut edges must be painted or primed.

CAULKING

A high quality, paintable caulk is required in accordance with Part 9.27.4 of the NBC. For best results use a sealant that complies with either ASTM C 834 or ASTM C 920 (Grade NS, Class 25). Caulking must be applied in accordance with caulking manufacturers written instructions.

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-IM, 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.

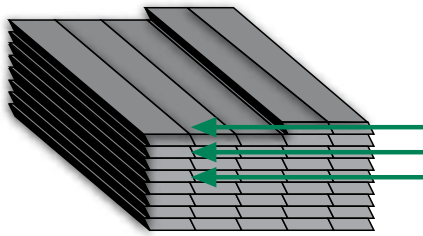
ADDITIONAL HANDLING REQUIREMENTS

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.

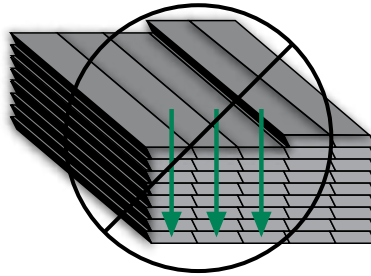
FIRE-RESISTIVE CONSTRUCTION:

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		92	3/64	38	1-1/2	241	9-1/2
31	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
61	5/64	19	3/4	150	6		
6.7	17/64	25	1	190	7-1/2		

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

