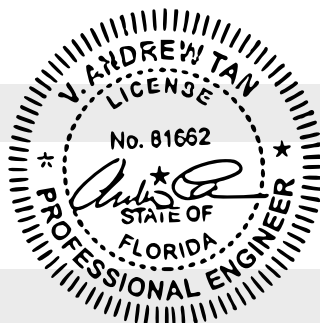
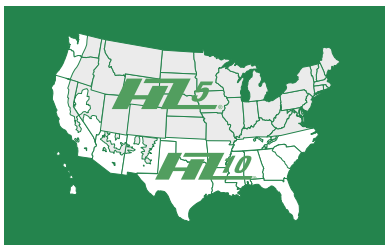




# Hardie® Panel

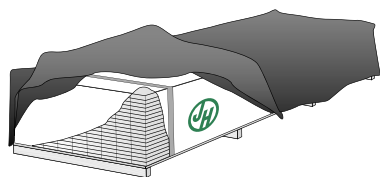
## Board and Batten Insert

EFFECTIVE JANUARY 2022

**IMPORTANT: FAILURE TO FOLLOW JAMES HARDIE WRITTEN INSTALLATION INSTRUCTIONS AND COMPLY WITH APPLICABLE BUILDING CODES MAY VIOLATE LOCAL LAWS, AFFECT BUILDING ENVELOPE PERFORMANCE AND MAY AFFECT WARRANTY COVERAGE. FAILURE TO COMPLY WITH ALL HEALTH AND SAFETY REGULATIONS WHEN CUTTING AND INSTALLING THIS PRODUCT MAY RESULT IN PERSONAL INJURY. BEFORE INSTALLATION, CONFIRM YOU ARE USING THE CORRECT HARDIE™ ZONE PRODUCT INSTRUCTIONS BY VISITING [HARDIEZONE.COM](http://HARDIEZONE.COM) OR CALL 1-866-942-7343 (866-9-HARDIE)**

### 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

1. Position cutting station so that airflow blows dust away from the user and others near the cutting area.
2. Cut using one of the following methods based on jobsite requirements:
  - a. Best: Electric or pneumatic fiber cement shears (not recommended for products thicker than 7/16 in).
  - b. Better: Circular saw equipped with a Hardie™ Blade saw blade and attached vacuum dust collection system.
  - c. Good: Circular saw equipped with a Hardie™ Blade saw blade and supplemental ventilation.

#### INDOORS

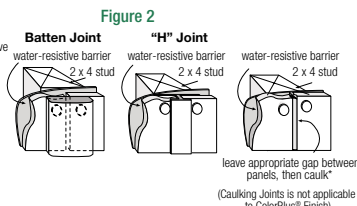
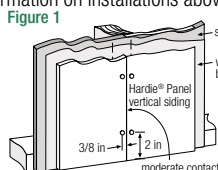
- DO NOT grind or cut with a power saw indoors. Cut using shears (manual, pneumatic or electric) or the score and snap method, not recommended for products thicker than 7/16 in.
- During clean-up of dust and debris, wet dust and debris down with a fine water mist, apply a dust reducing sweeping compound in sufficient quantities, or use a vacuum to collect dust and debris. DO NOT use compressed air. DO NOT dry sweep without first applying a dust reducing control measure.
  - For best performance when cutting with a circular saw, James Hardie recommends using Hardie™ Blade saw blades.
  - Go to [jameshardiepros.com](http://jameshardiepros.com) for additional cutting and dust control recommendations.

**IMPORTANT:** The Occupational Safety and Health Administration (OSHA) regulates workplace exposure to silica dust. For construction sites, OSHA has deemed that cutting fiber cement with a circular saw having a blade diameter less than 8 inches and connected to a commercially available dust collection system per manufacturer's instructions results in exposures below the OSHA Permissible Exposure Limit (PEL) for respirable crystalline silica, without the need for additional respiratory protection.

If you are unsure about how to comply with OSHA silica dust regulations, consult a qualified industrial hygienist or safety professional, or contact your James Hardie technical sales representative for assistance. James Hardie makes no representation or warranty that adopting a particular cutting practice will assure your compliance with OSHA rules or other applicable laws and safety requirements.

### GENERAL REQUIREMENTS:

- These instructions to be used for single family installations only. \*\*For Commercial / Multi-Family installation requirements go to [www.jameshardiepros.com](http://www.jameshardiepros.com)
- Hardie® Panel vertical siding can be installed over braced wood or steel studs, 20 gauge (33 mils) minimum to 16 gauge (54 mils) maximum, spaced a maximum of 24 in o.c. or directly to minimum 7/16 in thick OSB sheathing. See General Fastening Requirements. Irregularities in framing and sheathing can mirror through the finished application. Correct irregularities before installing siding.
- Information on installing Hardie® products over non-naillable substrates (ex: gypsum, foam, etc.) can be located in [Hardie Technical Bulletin at \[www.jameshardie.com\]\(http://www.jameshardie.com\)](#)
- A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture Hardie™ Weather Barrier, a non-woven non-perforated housewrap<sup>1</sup>, which complies with building code requirements.
- Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6 in. in the first 10 ft.
- Do not use Hardie® Panel vertical siding in Fascia or Trim applications.
- Do not install Hardie® products, such that they may remain in contact with standing water.
- Hardie® Panel vertical siding may be installed on flat vertical wall applications only.
- 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 Hardie® Siding Products](#)" at [www.jameshardie.com](http://www.jameshardie.com).
- James Hardie Building Products provides installation /wind load information for buildings with a maximum mean roof height of 85 feet. For information on installations above 60 feet, please contact JH technical support.
- Minimum standard panel design size is 12 in. x 16 in.. Note: Panels may be notched and cut to size to fit between windows, doors, corners, etc.



### INSTALLATION:

#### Fastener

Position fasteners 3/8 in from panel edges and no closer than 2 in away from corners. Do not nail into corners.

- Hardie® Panel vertical siding must be joined on stud.
- Double stud may be required to maintain minimum edge nailing distances.
- When screws are used to attach panels to steel studs/furring, the screws shall have wing tips. If screws do not have wing tips, then pre-drilling is required. (Not applicable when using pins) Follow chart below for pre-drilling:

| SCREW  | NAIL     | HEAD DIAMETER  |
|--------|----------|----------------|
| No. 8  | 7/32 in. | Min. 0.323 in. |
| No. 10 | 1/4 in.  | Min. 0.323 in. |

#### Joint Treatment

- Vertical Joints - Install panels in moderate contact (fig. 1), alternatively joints may also be covered with battens, PVC or metal jointers or caulked (Not applicable to ColorPlus® Technology Finish) (fig. 2).
- Horizontal Joints - Provide Z-flashing at all horizontal joints (fig. 3).

Figure 3

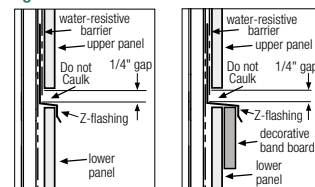
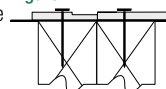


Figure 4



Recommendation: When installing Sierra 8, provide a double stud at panel joints to avoid nailing through grooves.

\*Apply caulk in accordance with caulk manufacturer's written application instructions. \*\*James Hardie recommends installing a rainscreen (an air gap) between the Hardie® Panel vertical siding and the water-resistive barrier as a best practice. James Hardie recommends that you consult your design professional if you have questions regarding the use of rainscreen on your single family project. <sup>1</sup>For additional information on Hardie™ Weather Barrier, consult James Hardie at 1-866-4Hardie or [www.hardiewrap.com](http://www.hardiewrap.com).

SELECT CEDARMILL® | SMOOTH | STUCCO | SIERRA 8

Visit [jameshardiepros.com](http://jameshardiepros.com) for the most recent version



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## CLEARANCE AND FLASHING REQUIREMENTS

**Figure 5**  
**Roof to Wall**

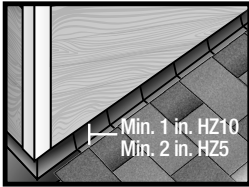


**Figure 6**  
**Horizontal Flashing**

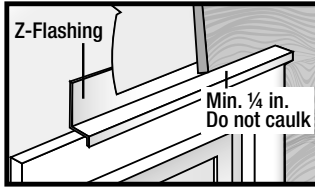


**Figure 7**  
**Kickout Flashing**

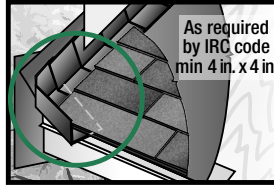


**Figure 8**  
**Slabs, Path, Steps to Siding**

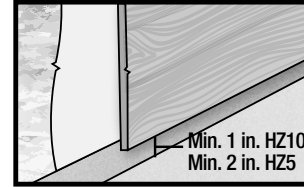


**Figure 9**  
**Deck to Wall**

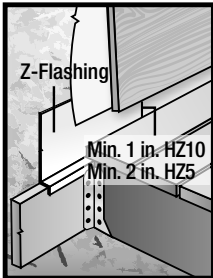


**Figure 10**  
**Ground to Siding**

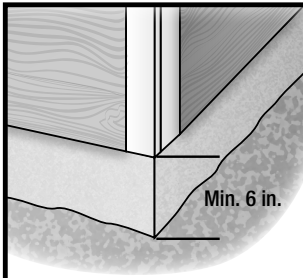


**Figure 11**  
**Gutter to Siding**

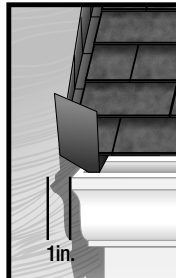


**Figure 12**  
**Sheltered Areas**

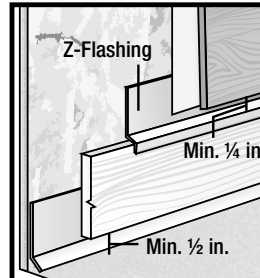


**Figure 13**  
**Mortar/Masonry**

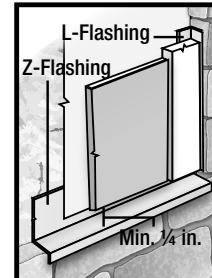


**Figure 14**  
**Drip Edge**

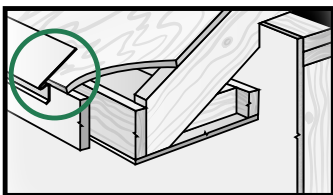


**Figure 15**  
**Block Penetration**  
(Recommended for HZ10)

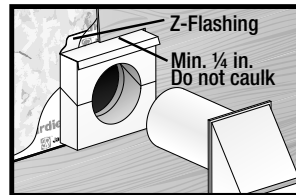
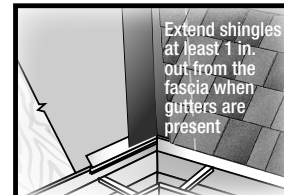
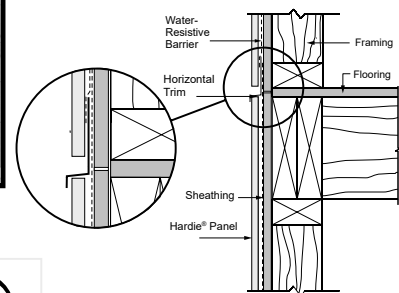


**Figure 16**  
**Valley/Shingle Extension**



Do not bridge floors with Hardie® Panel vertical siding. Horizontal joints should always be created between floors, see below).



## GENERAL FASTENING REQUIREMENTS

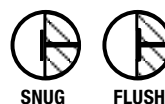
Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. Unless otherwise directed, James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners.

Stainless steel fasteners are recommended when installing Hardie® products near the ocean, large bodies of water, or in very humid climates. Note: Ring shank (not smooth) shall be used when specifying stainless steel nails.

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 Hardie® Trim Tabs, aluminum trim, or flashing to preservative treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to the latest versions of the IRC/IBC.

- Consult applicable product evaluation or listing 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).

NOTE: Whenever a structural member is present, Hardie® Panel 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**



**IF, THEN**

**WOOD FRAME**



**STEEL FRAME**

**REMOVE & REPLACE**

**DO NOT**



**IF, THEN ADDITIONAL NAIL**

**FACE NAIL**



**DO NOT USE**





## BOARD & BATTEN APPLICATION - 16 IN. X 12 FT. HARDIE® PANEL VERTICAL SIDING

A board and batten look may be achieved using 16 in. x 12 ft. Hardie® Panel vertical siding by following all instructions in this document.

### INSTALLATION REQUIREMENTS:

- Where state or local building code requirements are more stringent than these instructions, state or local building codes take precedence.
- Hardie® Panel vertical siding can be installed direct to wood stud with maximum 16 in. o.c. stud spacing or direct to min. 7/16 in. thick OSB sheathing (Fig 17).
- Refer to the Hardie® Panel vertical siding (16 in. x 12 ft. dimension only) Technical Data Sheet (TDS) for fastener and fastener spacing requirements. A Z-flashing shall be provided at all horizontal joints, and must be incorporated into the water-resistive barrier
- Maintain a minimum 1/4 in. clearance between the top of all horizontal flashing and the bottom edge of the overlapping Hardie® Panel siding (Fig 19 and Fig 20).

### Vertical Joints

Treat the vertical joints by following Steps 1 and 2.

Step 1: Install the panels in moderate contact or leave an appropriate gap between panels (1/8 in. is the most common), and caulk using a high-quality paintable caulk, that meets ASTM C-834 or C-920 requirements (Fig 18).

Step 2: All vertical joints shall be covered with a wood or fiber-cement batten strips (Fig 19). Batten strips shall span over the vertical joint by at least 3/4 in. on each side.

### Horizontal Joints

- DO NOT BRIDGE FLOORS / STORIES WITH HARDIE PANELS. Horizontal control joints must be used between stories.
- Panels shall be installed such that they align evenly at the horizontals (staggered or brick pattern is not permitted) (Fig 20).

At horizontal panel joints, battens shall be installed according to option 1 or 2 below. When installing battens horizontally, they must be installed at a panel joint according to option 2.

Option 1: No horizontal band board - Make a 22.5 - 45 degree weather cut, in the batten, just above the 1/4 in. clearance between panels.

Option 2: Horizontal Band Board - Install a horizontal band board at the top of the bottom panel. Butt the lower batten to the band board and start the top.

Figure 17

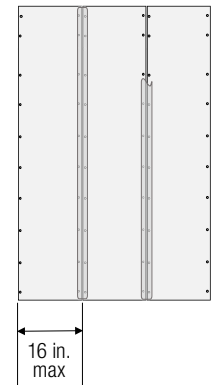


Figure 18

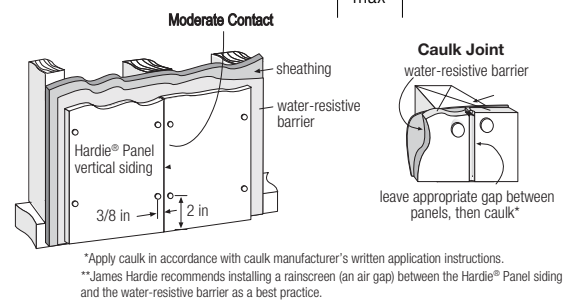


Figure 19

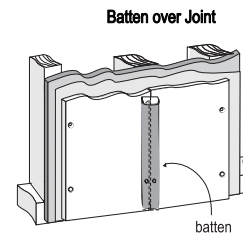
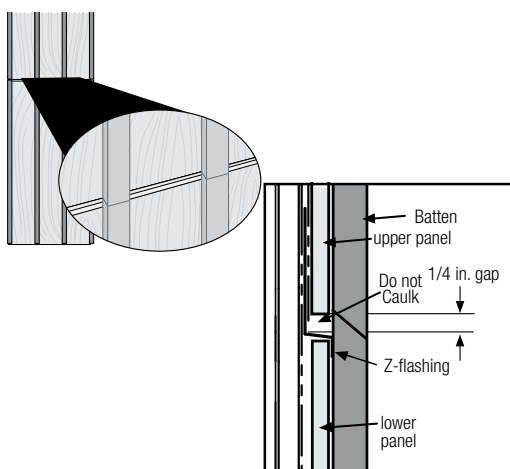
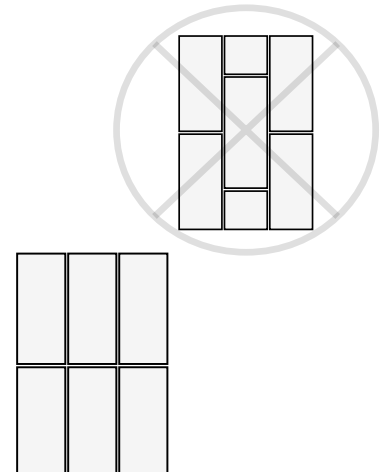
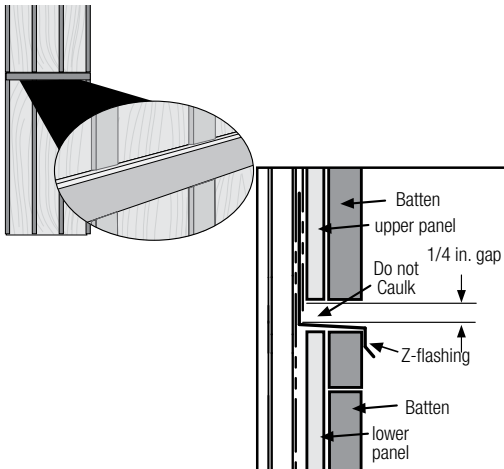


Figure 20

Option 1



Option 2





## CUT EDGE TREATMENT

**IMPORTANT:** Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up Hardie® products with ColorPlus® Technology finishes.

## CARE & MAINTENANCE

Routinely perform the following to help maintain the appearance and performance of Hardie® siding and trim products:

- Washing down the exterior surfaces every 6 to 12 months with a garden hose or low pressure water spray to remove dirt and debris.
- Re-applying of exterior finishes.
- Maintaining the exterior envelope and connections including joints, penetrations, flashings, and sealants (caulking) to prevent moisture entry behind the siding.
- Cleaning out gutters, blocked pipes, and overflows as required.
- Prune vegetation to prevent contact with the siding.
- Ensuring required external ground clearances and drainage slopes are maintained.

## 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: some caulk manufacturers do not allow "tooling".**

## PAINTING

DO NOT use stain, oil/alkyd base paint, or powder coating on Hardie® products. James Hardie factory primed products must be painted within 180 days of installation. 100% acrylic topcoats are recommended. Do not paint when Hardie® products are wet. Follow paint manufacturer's instructions and application rates. Back rolling is recommended if spray application is used.

## COLORPLUS® TECHNOLOGY FINISH CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting Hardie® products ColorPlus® Technology finishes. During installation, use a wet soft cloth or soft brush to gently wipe off any residue or construction dust left on the product, then rinse with a garden hose.
  - Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with a new piece of 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 Hardie® products ColorPlus® Technology finishes dealer.
  - Treat all other non-factory cut edges using the ColorPlus® Technology edge coaters, available from your Hardie® products ColorPlus® Technology finishes dealer.
- Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on Hardie® products with ColorPlus® Technology finishes.

## PAINTING HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS® TECHNOLOGY FINISHES

When repainting Hardie® products with ColorPlus® Technology finishes, 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 based paints on Hardie® products.
- Apply finish coat in accordance with paint manufacturers' written instructions regarding coverage, application methods, and application temperature.
- DO NOT caulk nail heads when using Hardie® products with ColorPlus® Technology finishes, refer to the ColorPlus® Technology touch-up section.

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### SILICA WARNING

DANGER: May cause cancer if dust from product is inhaled. Causes damage to lungs and respiratory system through prolonged or repeated inhalation of dust from product. Refer to the current product Safety Data Sheet before use. The hazard associated with fiber cement arises from crystalline silica present in the dust generated by activities such as cutting, machining, drilling, routing, sawing, crushing, or otherwise abrading fiber cement, and when cleaning up, disposing of or moving the dust. When doing any of these activities in a manner that generates dust you must (1) comply with the OSHA standard for silica dust and/or other applicable law; (2) follow James Hardie cutting instructions to reduce or limit the release of dust; (3) warn others in the area to avoid breathing the dust; (4) when using mechanical saw or high speed cutting tools, work outdoors and use dust collection equipment; and (5) if no other dust controls are available, wear a dust mask or respirator that meets NIOSH requirements (e.g. N-95 dust mask). During clean-up, use a well maintained vacuum and filter appropriate for capturing fine (respirable) dust or use wet clean-up methods - never dry sweep.

**WARNING:** This product can expose you to chemicals including respirable crystalline silica, which is known to the State of California to cause cancer. For more information go to [P65Warnings.ca.gov](http://P65Warnings.ca.gov).

**RECOGNITION:** In accordance with ICC-ES Evaluation Report ESR-1844, Hardie® Panel vertical siding is recognized as a suitable alternate to that specified in the 2006, 2009, 2012 & 2015 International Residential Code for One- and Two-Family Dwellings and the 2006, 2009, 2012 & 2015 International Building Code. Hardie® Panel vertical siding is also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida Product Approval FL#13223, Miami-Dade County Florida NOA No. 17-0406.06, U.S. Dept. of HUD Materials Release 1263f, 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.