JamesHardie
Commercial

HardiePanel®

HardiePanel® Vertical Siding Technical Guide

Technical Services:
1-800-942-7343

Traditional Applications
For Multifamily and Light Commercial Construction

About James Hardie Building Products

James Hardie is the world leader in fiber cement technology. We pioneered the development of fiber cement siding in the 1980s and since have steadily expanded the product's durability, versatility and strength. Our operations encompass the United States, Australia, New Zealand, and the Philippines. We have been delivering products to customers for over 30 years. 5.5 million homes across the U.S. are protected by James Hardie building products.

Our exterior products create a wide range of traditional looks: from plank, panel and soffit to decorative trims and moldings. Plus, we offer more modern looks including commercial panel systems. Our interior products include tile underlayment, ideal for floors and wall linings.

James Hardie Commercial offers high performing products, systems and services designed to protect your vision. All James Hardie Commercial products offer a unique combination of durability, affordability and performance making them the smart choice for long-term success. Plus, James Hardie Commercial offers design support and installation training to promote precision, minimize risk and help you get it right every time.

■ MANUFACTURING OPERATIONS
■ GROWTH POTENTIAL

RENO, NV
PERU, IL
TACOMA, WA
AMSTERDAM
BLANDON, PA
FONTANA, CA
PULASKI, VA
SUMMERVILLE, SC
WAXAHACHIE, TX
CLEBURNE, TX
PLANT CITY, FL
MANILA
BRISBANE
SYDNEY
AUCHLAND

Contents

1 | INTRODUCTION

The extensive range of products offered by James Hardie provides the freedom, aesthetics and affordability you need to create a distinct look for apartments, condos, senior living and commercial real estate.

This document is a guide only. It is intended for use by architects, and general contractors who may be involved with the design and installation of HardiePanel vertical siding to create traditional looks in Multifamily and Light Commercial Construction. This document must be read in conjunction with the current multi-family / commercial installation requirements.

1.1 SCOPE

The material contained herein is aimed to provide guidance and technical specification for the use of HardiePanel® vertical siding in traditional solutions/applications for light commercial and multifamily construction. The most important change involves the requirement of HardiePanel® to be installed in a rainscreen application.

1.2 APPLICATION

HardiePanel vertical siding is a panel product that accommodates for traditional design styles. HardiePanel vertical siding offers versatile and durable design options for architects and builders. This product is ideal for achieving a board and batten look or other traditional styles. When used in multifamily or light commercial applications, HardiePanel vertical siding must be installed over 3/8" furring in a rainscreen application. This application is limited to six stories maximum.

James Hardie recognizes that style and applications are complementary and does not recommend ColorPlus® panel for every application. Applications with ColorPlus® panels that require touch-up to cover fasteners are not recommended. Primed panels should be used in such applications (refer to section 4.1). HardiePanel siding may not be used as trim. Contact technical support if your design involves curved or pitched wall designs. Refer to product installation instructions for further details at www.jameshardiecommercial.com.

1.3 RESPONSIBILITY

While care has been taken to provide the contained specifications, details, and other material content, we cannot incorporate every design iteration for intended application. It is the responsibility of the licensed architect, designer, specifier or builder to ensure that the construction details are suitable for the project's intended application. The responsible party shall also identify moisture related risks associated with any particular building design. The wall design and construction must effectively manage moisture. Properly designed rainscreens should incorporate wall system features to manage water, as regional climatic needs dictate.

The responsible parties shall ensure that the product meets aesthetic requirements before installation; and that the application suits the product intent for assemblies and in accordance with local building codes. Mockup walls / constructions are recommended. James Hardie assumes no responsibility for rectifying obvious aesthetic surface variations subsequent to installation.

1.4 WORK SAFETY

James Hardie embraces safe working practices and believes that safety should be of paramount importance. We remain committed to jobsite safety and recommend safe use of our products.

James Hardie products contain sand, a source of respirable crystalline silica, which is considered by some international authorities to be an occupational source leading to health impairment, namely fibrosis. Some studies suggest smoking may increase the risks. We promote and encourage the use of protective equipment proven to limit the amount of silica dust exposure.

Additionally, work in areas with ample ventilation. Minimize dust when cutting, position cutting station so that wind will blow dust away from users and others in the area. When cutting, sanding, rebating or drilling avoid breathing dust. Wear properly fitted dust mask or respirator. Make others in the immediate area aware of the risks and encourage use of dust masks or respirators. Use HardieBlade® Saw Blade and dust reducing circular saws attached to a HEPA vacuum.

1 | INTRODUCTION

1.5 SUSTAINABILITY

James Hardie believes sustainable building and construction practices are important and can be addressed in the following ways: raw materials, manufacturing, products design interface, and communities.

James Hardie is a longstanding industry innovator and prides itself on product development, building science, and innovative manufacturing. James Hardie products are made from natural and sustainable raw materials of portland cement, ground sand, cellulose fibers, and small amounts of additives as required for product properties. We have a high selection standard for our raw materials, and 75% of raw materials are locally sourced. We also embrace practices of fuel conservation and efficiency in manufacturing and shipping.

James Hardie factories worldwide continue to implement the principles in compliance with our sustainability policy. Our Illinois and Virginia manufacturing facilities are ISO 14001 certified for Environmental Management Systems.

Our technology advancements include products that are Engineered for Climate®. Our ColorPlus® Technology offers a durable finish that minimizes Volatile Organic Compounds (VOC) on the job sites.

We recognize that informed product decisions have to be made in order to create high performance structures that deliver on their sustainability obligation. James Hardie products are easy to incorporate into practical building systems – they are durable and low maintenance. While products alone do not provide LEED points, under USGBC LEED program, James Hardie projects may contribute to LEED NC points MR 5, MR 2.2c for homes, (regional materials) and MR 4, MR 2.2b for homes, (recycled content).

2 | PRODUCT INFORMATION

2.1 PRODUCT SELECTION

James Hardie offers a full range of products that meet a wide variety of design needs. All of our products are engineered for climate. HZ5® products are engineered for freezing wet climates, and HZ10® products are engineered for humid and hot climates. James Hardie gives you the ability to get the right siding for your climate. To find which product zone your project is located in visit: www.hardiezone.com
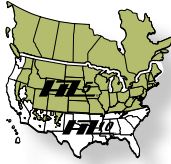
All James Hardie products are primed and ready to paint. For the ultimate in performance, our products are also available with ColorPlus® Technology. ColorPlus technology is a proprietary process for applying baked-on finish to maximize durability and resistance to the elements. Our color palette has been selected to meet regional demands with more than 20 color offerings.

2.2 PRODUCT INFORMATION

HardiePanel vertical siding is a great option for a smooth and traditional panelized look.

HardiePanel vertical siding
Surface textures include:
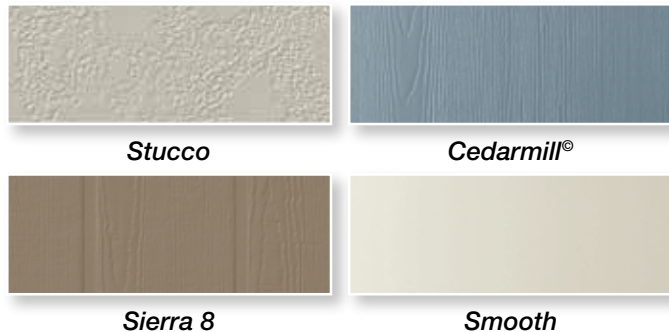• Smooth • Select Sierra 8 • Cedarmill© • Stucco

Thickness: 5/16" (7.9mm)
Widths: 48" (1.22 m)
Length: 96" (2.44 m), 108" (2.74m), 120" (3.0 m)
Weight: 2.3 lbs./sq.ft.

Available in primed or with ColorPlus Technology

Stucco

Cedarmill©

Sierra 8

Smooth

In addition to HardiePanel vertical siding, James Hardie offers
* RH 30%-90%

a full range of products to suit most styles:
•   HardieWrap® Weather Barrier
•   Artisan® Lap Siding
•   Artisan® Accent Trim
•   HardiePlank® Lap Siding
•   HardieShingle® Siding
•   HardieTrim® Boards

For a modern panel look, please refer to www.JamesHardieCommerical.com.

2.3 HARDIEPANEL TECHNICAL DATA

James Hardie exterior cladding complies with physical properties and supplementary requirements described in ASTM C1186. A partial property list follows.

•   Dimensional Tolerance: length, width..............................0.5%
•   Dimensional Tolerance: thickness……...........…..........±1.6 mm
•   Flexural Strength: wet condition………....................…....7 MPa
•   Flexural Strength: equilibrium condition…...............……10 MPa
•   Flexural Strength: freeze/thaw, wet retention...................>80%
•   Flexural Strength: warm water, wet retention...................>85%
•   Moisture Movement*:....0.05% (A direction), 0.06% (B direction)
•   Average Density………...…1.3 g/cm^3
•   Water Tightness...Pass
•   Warm Water Resistance..Pass
•   Heat/Rain Resistance...Pass
•   Surface Burning Characteristics *(ASTM E84)*.............FSI=0, SDI<5
•   Thermal Conductivity (ASTM C177)...................2.07 BTU/hr-ft2-ºF
•   Coefficient of Thermal Expansion
    (Longitudinal, ASTM E228)..................................6.70x10-6 in/inºF
•   Coefficient of Thermal Expansion
    (Transverse, ASTM E228)....................................6.65x10-6 in/inºF
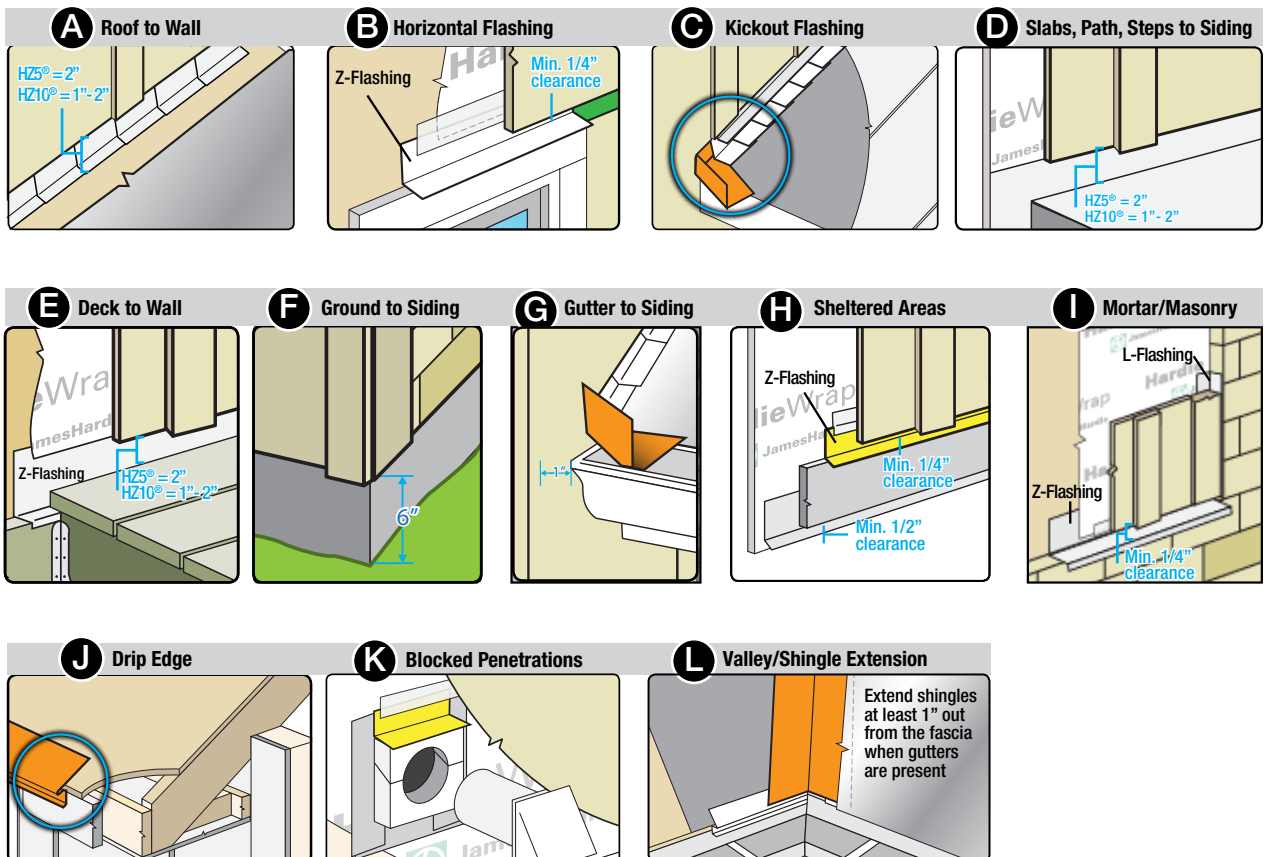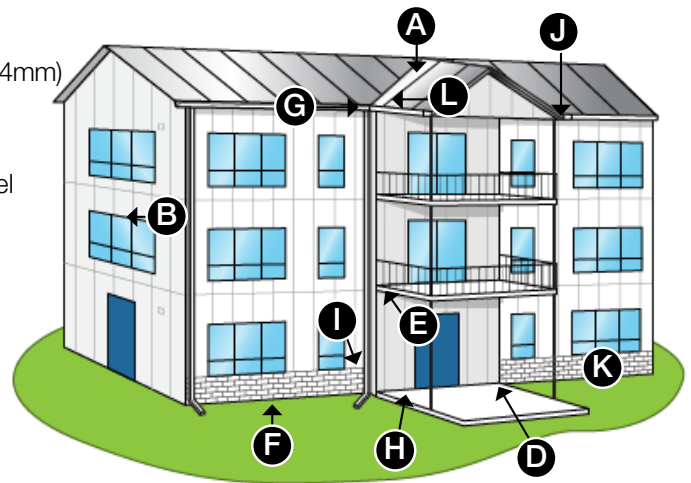
2.4 ACCESSORIES

There are a number of manufacturers for fasteners, furring, caulking, and paint. James Hardie does not specify any one brand of product for use in conjunction with HardiePanel vertical siding. It is the architect's responsibility to select components based on technical information and warranties as supplied by third party manufacturers.

3 | GENERAL REQUIREMENTS

3.1 CLEARANCES

Siding and trim must be installed in compliance with local building code requirements for clearances between the bottom edge of the siding and the adjacent finished grade. All clearance requirements must be followed when installing James Hardie siding products.

- James Hardie requires a minimum 6" (152mm) clearance to finished grade on the exterior of the building (8" or 203mm in Canada).
- Install kick out flashing at roof-wall junctions.
- Ensure gutters have end caps and must have a minimum 1" (25.4mm) clearance between end cap and siding or trim.
- Every horizontal break surface must be flashed.
- A minimum ¼" (6.4mm) clearance is required between the panel factory edge and the horizontal flashing.
- Do not caulk the gap between flashing and product.
- James Hardie requires maintaining a 2" (50 mm) clearance between product and horizontal surfaces other than at grade.

A Roof to Wall
HZ5® = 2"
HZ10® = 1"-2"

B Horizontal Flashing
Z-Flashing
Min. 1/4" clearance

C Kickout Flashing

D Slabs, Path, Steps to Siding
HZ5® = 2"
HZ10® = 1"- 2"

E Deck to Wall
Z-Flashing
HZ5® = 2"
HZ10® = 1"-2"

F Ground to Siding
6"

G Gutter to Siding
1"

H Sheltered Areas
Z-Flashing
Min. 1/4" clearance
Min. 1/2" clearance

I Mortar/Masonry
L-Flashing
Z-Flashing
Min. 1/4" clearance

J Drip Edge

K Blocked Penetrations

L Valley/Shingle Extension
Extend shingles at least 1" out from the fascia when gutters are present

3 | GENERAL REQUIREMENTS

3.2 FRAMING REQUIREMENTS

James Hardie siding products can be installed onto wood or steel framing. Stud spacing is to be a maximum of 24" (600m) on center. Additional framing may be required at key locations such as joints or abutments. Irregularities in framing and sheathing can transfer through to the finished application.

James Hardie has solutions for the following frame types:
• Wood
• Structural steel construction must be min 20 ga.
• Over concrete masonry wall (ASTM C90)

3.3 RAINSCREEN REQUIREMENTS

When used in multifamily or light commercial applications, HardiePanel vertical siding must be installed over furring in a rainscreen application. Furring shall be installed between the cladding and a code-approved water-resistive barrier. Furring shall be a minimum 3/8" thick and a minimum 1-1/2" wide.

It is the responsibility of the designer, engineer, or builder to:
• Adhere to all the installation requirements listed in the relevant product installation instructions.
• Provide adequate details for water management.
• Understand both the limitations of each system component and the interaction between system components.
• Account for both interior and exterior moisture control.
• Identify all moisture-related risks associated with the building design.

20-16 gauge must be used when using light gauge steel z-girts as rainscreen furring. Rainscreen furring must be designed to be structurally fit for purpose. At thicker gauge steel, 16 ga., self-drilling wing tipped screws work best.

Alkaline Copper Quaternary (ACQ) treated lumber may pose a corrosive risk affecting aluminum trim components and metal trim or accessories, such as screws. Wood preservative manufacturers generally advise that aluminum, galvalume, or uncoated galvanized metals should not be used in direct contact with wood containing ACQ or similar water based preservatives. Metals should be separated from treated wood with a barrier

or industrial coating. Check with treatment manufacturers for specific recommendations.

When using Treated Plywood or Treated Dimensional wood:
-BEST: MCS or MCQ treated wood
-BETTER: CA or ACQ treated wood
-GOOD: CA or ACQ treated wood, not to be used when 1 mile from coastal saltwater.

James Hardie does not recommend the use of drainage mats or drainage boards. These products can compress during the installation process, impairing drainage channels and causing a wavy appearance in the panel.

Bug (vermin) screens or cavity vent strips may be installed at rainscreen openings to deter insect infestations. Note, this may reduce ventilation capacity.

3 | GENERAL REQUIREMENTS

3.4 FASTENING REQUIREMENTS

Wood furring:

The wood furring thickness will be dependent on the details of the wall assembly, with a minimum thickness of 3/8". The fastener should be selected using ESR-1844 Table 4, "Maximum Wind Speeds for Exposure Category (mph)," according to the wind speed desired for the given stud spacing, building height, and exposure category. The fastener must be fully encompassed in wood with specific gravity equivalent to the reference wood stud specific gravity, as found in ESR-1844 Table 4.

The furring may count as all of the necessary penetration if:
- It is attached with its own fastener schedule to resist the wind load desired while holding the weight of the product, and
- It encompasses the full length of the fastener, and
- The furring specific gravity is equivalent to the reference wood stud specific gravity, as found in ESR-1844 Table 4.

The furring may count as part of the necessary penetration if:
- It is attached directly to other wood structural members, which encompasses the rest of the fastener, and
- The furring specific gravity is equivalent to the reference wood stud specific gravity, as found in ESR-1844 Table 4.

Steel furring:

The steel furring must be a minimum 20 gauge steel and must maintain a minimum 3/8" gap. The fastener should be selected using ESR-1844 Table 4, "Maximum Wind Speeds for Exposure Category (mph)," according to the wind speed desired for the given stud spacing, building height, and exposure category. If a nail or pin is used, it must penetrate the furring to a depth of 1/4". If a screw is used, it must penetrate the furring for three full threads.

Concrete Masonry Units (CMU):

Wood or steel furring must be used over CMU such that the furring transfers the wind loads and other necessary forces back to the structure.

Note: For description of attachment of furring over foam to structure consult with Foam Sheathing Coalition (FSC) in reference to fastener selection. See Tech Matters: Guide To Attaching Exterior Wall Coverings Through Foam Sheathing To Wood or Steel Wall Framing, 2011. (Table 1a: Siding minimum fastening requirements for direct cladding attachment over foam plastic sheathing to support cladding weight.)

General Fastening:

HardiePanel siding can be fastened by hand or pneumatically. All fasteners should be driven such that they are snug or flush with the panel surface. No fasteners should be countersunk or recessed with the intent of concealing the fasteners. James Hardie ColorPlus Touch-up is not intended to conceal fastener heads.

Corrosion-resistant fasteners must be used. The following are recommended:
- Galvanized, preferably hot-dipped in the case of nails
- Stainless steel, especially for installation near the ocean or other large bodies of water or in very humid climates

The following are not recommended:
- Electro-galvanized, since premature corrosion may occur
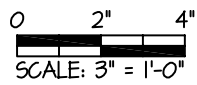
DO NOT USE:
- Clipped-head nails
- Staples
- Aluminum fasteners of any kind

James Hardie is not responsible for the corrosion resistance of fasteners.

Fastener type, size and spacing are determined in accordance with IBC/IRC requirements. Fastener specification for your project is dependent on the project design wind loads. Consult applicable product evaluation report or product listing for correct fastener spacing and fastener dimensions. The following are recommened: ESR-1844, TDI EC-23, Miami Dade County NOA 12-0218.11, State of Florida PA FL13223.

WOOD FRAMING

INSULATION
WHERE REQ'D

HardiePanel® Siding

WATER RESISTIVE BARRIER
HardieWrap® weather barrier
or Equivalent

EXTERIOR SHEATHING

RAINSCREEN AIR SPACE
W/ VERTICAL FURRING STRIPS

WATER RESISTIVE BARRIER

3/8" GAP, DO NOT CAULK

Z-FLASHING

INTERIOR SHEATHING

Note: every other floor break should
have z-flashing extending back to the
weather barrier.

0   2"   4"

SCALE: 3" = 1'-0"
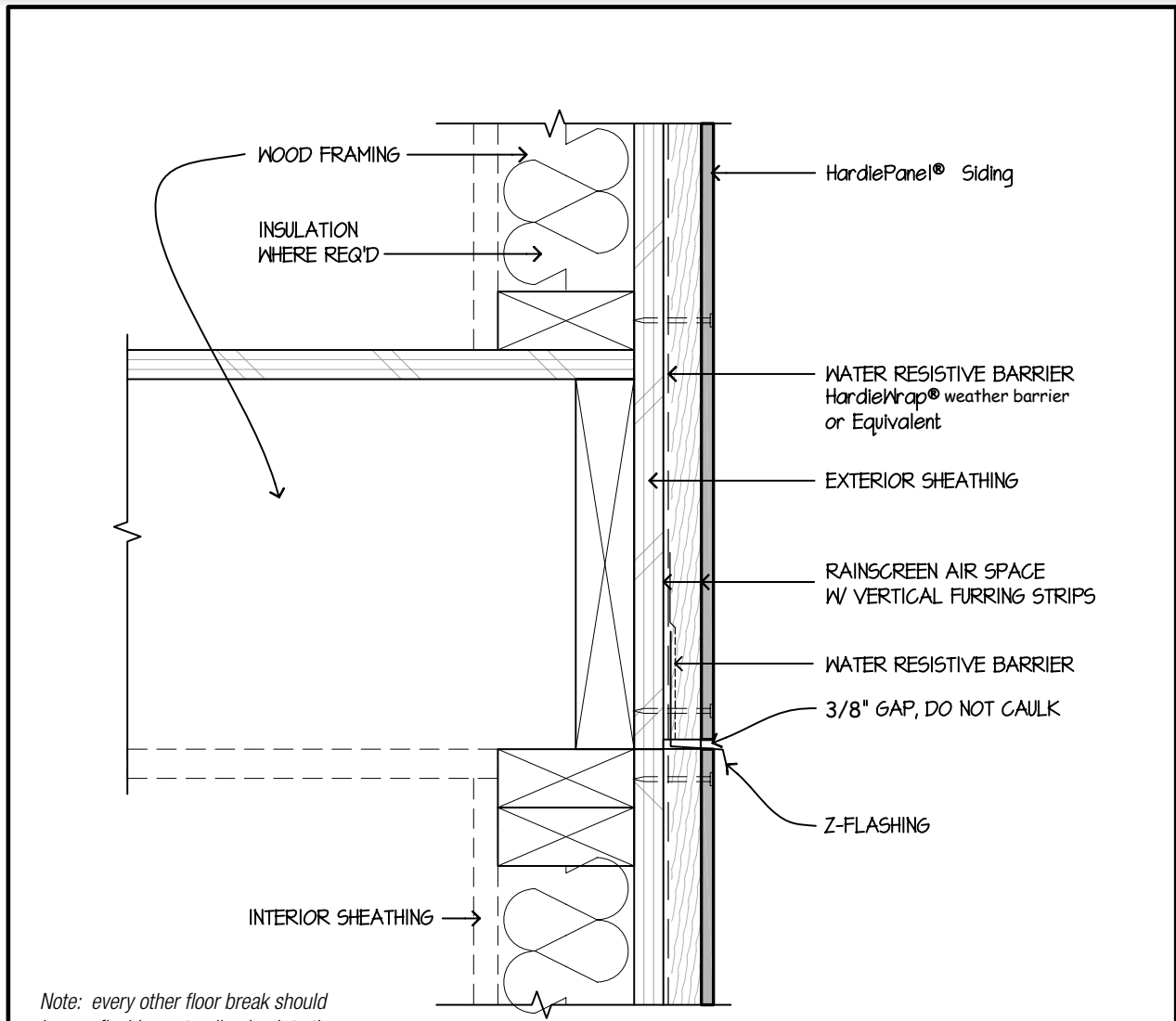
HORIZONTAL VIEW - RAINSCREEN

These drawings are published as an information guide only. These CAD drawings are
intended as templates to assist the designer. They do not contain the full details
required for construction and must be read in conjunction with the installation instructions
on www.jameshardie.com. You should obtain architectural, engineering or other technical
advice to assess the suitability of these drawings to the requirements of your particular
project. James Hardie accepts no liability in respect to the use of these drawings.

For fastener specifications and complete installation instructions
refer to appropriate documentation at www.JamesHardie.com

DETAIL:

PANEL
3.05

HardiePanel® Siding Details
• Wood Framing with Wood Furring Strips
• OSB or Plywood Sheathing
• Shown with Siding Nails into Framing

JamesHardie

4 | PRINCIPLES FOR DESIGN

4.1 DESIGN OPTIONS

HardiePanel siding can be used to create a wide variety of traditional styles, especially when combined with HardieTrim board and battens.

Four textures are available, as outlined in section 2, and most products are available both primed and with ColorPlus technology. Applications that either cover fasteners or accentuate exposed fasteners as a design feature are recommended when installing HardiePanel with ColorPlus technology.

The following tables outline the recommended applications for both primed and ColorPlus panels. Not all designs will be suitable for every application.

Traditional styles that are ideally suited for HardiePanel vertical siding.

ColorPlus Products	Vertical Joints	Horizontal Joints	Fasteners
Stucco, Cedarmill, Smooth	Batten at joints and at stud centers to cover fasteners	Z-flashing with or without trim	As per ESR 1844
	Moderate contact	Z-Flashing	As per ESR 1844 exposed fastener only
	Batten or Trim	Z-Flashing with Trim	As per ESR 1844 exposed fastener only

Do not caulk joints between ColorPlus panels. Do not use Touch-up on fastener heads on ColorPlus panels.

Primed Products (Field Painted)	Vertical Joints	Horizontal Joints	Fasteners
Stucco, Cedarmill, Smooth	Vertical batten typically 12-16" on center*	Z-flashing with or without trim	As per ESR 1844
	Moderate contact	Z-Flashing	As per ESR 1844
	Batten or Trim	Z-Flashing with Trim	As per ESR 1844
Sierra 8	Moderate contact	Z-Flashing	As per ESR 1844

Provide additional support for battens when not installed on stud locations.

Battened Panel

Trimmed Joints

4.2 MOISTURE MANAGEMENT

Wall construction and design must effectively manage moisture, considering both the interior and exterior environments of the building. This is particularly important for buildings that have a high risk of wind-driven rain penetration or those that are artificially heated or cooled.

The EEBA states, "The fundamental principle of water management is to shed water by layering materials in such a way that water is directed downwards and outwards of the building or away from the building. The key to this fundamental principle is drainage." [1]

Furthermore, "all water that is intercepted by the second line of defense [described as the system behind the cladding] must be dissipated to the exterior by means of drainage or evaporation, or both. Drainage is the only transport process with sufficient capacity to dissipate free water quickly enough to prevent deterioration from starting. [...] In most other [not including masonry veneer] circumstances, a 10-mm-deep cavity will provide sufficient drainage while allowing for typical construction practices."[2]

Wall openings, penetrations, junctions, connections, window sills, heads, and jambs must incorporate appropriate flashing for water management. A weather resistant barrier shall be continuous, with all junctions and penetrations properly detailed to prevent water entry. The cladding layer, where attached over furring, must also be detailed to minimize water entry.

[1] *EEBA (Energy & Environmental Building Assocation™) Water Management Guide by Joseph W. Lstriburek, Ph.D., P.eng. June 2004.*
[2] *http://archive.nrc-cnrc.gc.ca/obj/irc/doc/ctu-n34_eng.pdf*

4 | PRINCIPLES FOR DESIGN

4.3 PENETRATIONS

All penetrations shall be treated to manage moisture. Backer rod and sealant or gasketed cover plates should be used where applicable. Electrical outlets are properly installed when flush with the surface of the cladding.

Blocking is required around penetrations in the building envelope, such as hose bibs or holes with a diameter of 1-1/2" (38mm) or greater. Cap flashing must be installed over the top of the trim block.

The point of contact between the substructure and structural or mechanical stand-offs, such as awnings or access ladders, must be treated as a penetration of the siding or trim. Where blocking requires structural support, such as stair railings, wood blocking is required.

4.4 JOINT TREATMENT

Vertical joint treatment for panels shall be installed as follows:
- Moderate contact of the panels abutted together or
- Leave a 1/8" gap between panels and fill with caulk (for primed products only) or
- Cover joint with batten or trim board.

All horizontal joints must be flashed. If decorative band board is used, flashing shall extend over it.

Adding horizontal blocking between vertical furring members is not needed. If used, kerfed blocks are the accepted best practice for water management.
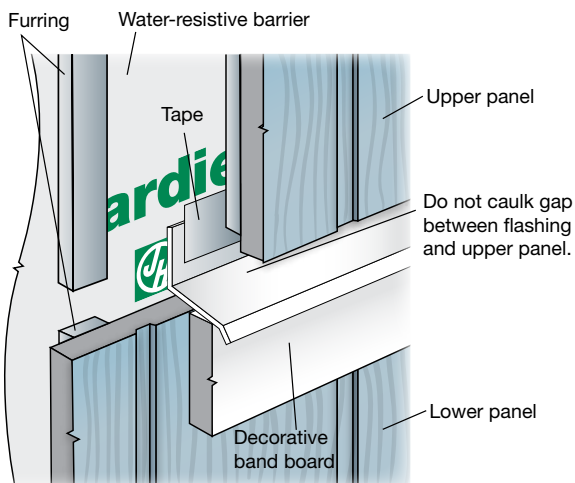
4.5 TRIM APPLICATIONS

All horizontal trim must have cap flashing. Trim is not intended for use as wall capping or rail caps. Refer to the HardieTrim® board installation instructions for details and trim requirements.

Horizontal joints for panels must be properly flashed to minimize water penetration. Treat joints using Z-flashing or flashed belly bands.

4.6 FLOOR TRANSITIONS & CONTROL JOINTS

Control joints should be considered in the building design such that the integrity of the cladding is maintained over time.

Panel may terminate anywhere between the top plate and bottom plate at a floor joist. All floor transitions must be flashed. A Z-flashing that extends back to the weather barrier must be provided at least at every other floor.

Do not bridge floors with siding or furring. Panels may terminate at top or bottom of a floor-break. Leave a minimum 3/8" (9.5mm) gap to accommodate anticipated structural movement. All floor transitions must be flashed with drainage flashing.

Vertical movement must be considered in the horizontal joint design.

Where the wall span is significant in length, the design professional should take into consideration the siding's coefficient of thermal expansion and moisture movement in their design.

Refer to technical data for computation.

Furring
Water-resistive barrier
Tape
Upper panel
Do not caulk gap between flashing and upper panel.
Lower panel
Decorative band board

5 | INSTALLATION GUIDANCE

5.1 STORAGE AND HANDLING

Store products in manufacturer's packaging until ready for installation. Store siding flat on a smooth surface. Protect edges and corners from chipping. Store sheets under cover and keep dry prior to installing. An additional waterproof covering may be necessary. Store and dispose of waste in accordance with requirements of local authorities.
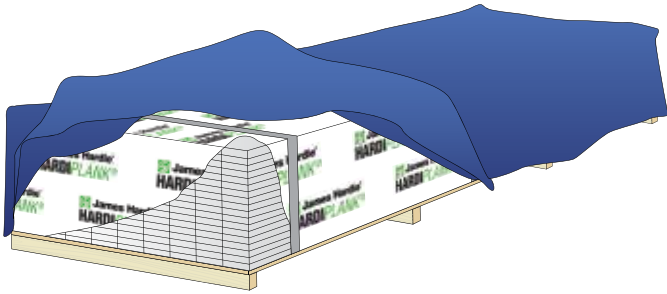
Carry James Hardie siding products on edge to avoid excessive bending. Two people should carry panel products.
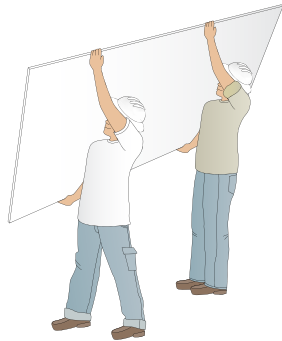
5.2 EXAMINATION

Do not begin installation until cladding and structure have been properly prepared and inspected.

5.3 PREPARATION

Clean surfaces thoroughly prior to installation. Prepare surfaces using the methods recommended by the manufacturer for achieving the best results for the substrate under the project conditions. Ensure that the drainage plane is intact and all penetrations are sealed.

5.4 QUALITY ASSURANCE

Provide a mock-up for evaluation of surface preparation techniques. Finish areas designated by architect, designer, or engineer. Do not proceed with remaining work until workmanship, color, and sheen are approved. Refinish mock-up area as required to produce acceptable work.

Important: James Hardie Literature (install instructions, design guides, technical bulletins) are subject to updates. Check for to the latest version of the installation instructions prior to starting your job. Failure to install and finish this product in accordance with applicable building codes and James Hardie's written application instructions may lead to personal injury, affect systems performance, violate local building codes, and void product warranty. Before installation, confirm that you are using the correct HardieZone® product. To determine the HardieZone product for your location, visit www.hardiezone.com or call 1-866-942-7343 (866 9-HARDIE).

6 │ Finishing & Maintenance

6.1 CAULKING

James Hardie recommends the use of caulks and sealants that remain permanently flexible. 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 manufacturer's written instructions. Note: Some caulking manufacturers, such as OSI Quad, do not allow tooling.

DO NOT caulk nail heads when using ColorPlus products.

6.2 PAINTING

Primed boards require painting to meet requirements of the warranty.
- Sheets must be dry and free of dirt or debris before coating.
- Coating must be completed within 180 days of sheet installation.
- 100% acrylic topcoats are recommended.
- For application rates refer to paint manufactures specification.
- Back-rolling is recommended if the siding is sprayed.
- Do not paint when product is wet.
- Do not use stain on James Hardie products.
- All field-cut sand cut-outs shall be primed and coated.
- Consult with paint manufacturer when field painting aluminum trims and stainless steel fasteners.

6.3 COLORPLUS® TECHNOLOGY

Our pre-finished product reduces overall need for painting and re-painting. This proprietary process applies a consistent, multi-coat factory finish, using industrial coating developed specifically for James Hardie fiber cement products. ColorPlus technology is a baked-on the board coating which delivers a high-quality, long-lasting finish.

Our color palette was created by color specialists, who handpicked custom colors and combinations for each area of the country. Architects can count on more than 20 color offerings that embrace different styles and environments.

Products are delivered with a protective laminate facing to protect from scratching and marring during shipping and installation. Touch-up kits have been developed as color matching solutions to correct for minor nicks and scrapes occurring in the field. Likewise, edge coaters are available for the treatment of field cut edges. ColorPlus touch-up shall be used sparingly. Do not use ColorPlus touch-up to cover fastener heads. Products with gouges, gashes, or defects approximately larger than a dime should be removed.

Arctic White	Navajo Beige	Cobble Stone	Heathered Moss	Boothbay Blue
Harris Cream	Sandstone Beige	Monterey Taupe	Mountain Sage	Evening Blue
Tuscan Gold	Autumn Tan	Woodstock Brown	Parkside Pine	Iron Gray
Chestnut Brown	Khaki Brown	Timber Bark	Countrylane Red	

Visit JamesHardieCommercial.com for the full color availability in your projects area.

6.4 CLEANING AND MAINTENANCE

Cleaning and maintaining the exterior of your home is an important part of sustaining its beauty and value. The extent and nature of maintenance will depend on the geographic location and exposure of the building. As a guide, normal care and maintenance are recommended.

To remove dirt and debris, wash down exterior surfaces with a water hose or low pressure water spray. ColorPlus products can be cleaned with a soft brush or rag. Stains and stubborn dirt can be washed with a mild detergent and soft brush.

Ensure required ground clearances and drainage slopes are maintained. Do not fill landscaping up to the siding. Keep vegetation, such as shrubs, brush or small trees trimmed back and away from the homes siding.

7 │ Additional Specifications

7.1 PERFORMANCE REFERENCES
- ASTM C 1186 – Standard Specification for Flat Fiber-Cement Sheets
- ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
- ASTM E 136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 degrees C.
- ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure.

PRODUCT APPROVALS
James Hardie maintains Government Reports, Evaluation Reports, and bulletins for specified requirements. Information can be found through Technical Services, which include:
- ICC-ES ESR 1844 State of Florida product approval, F13223
- Miami-Dade County Florida Notice of Acceptance, NOA 12-02 14.14
- Texas Department of Insurance (TDI) Evaluation Reports, EC-23
- Wildland Urban Interface Compliance for CalFire Listing
- FEMA recognition for flood resistance
- Canada CCMC Product Evaluation Report 12678

FIRE RATED ASSEMBLIES
James Hardie exterior siding has been tested and classified by IAS certified laboratories to ASTM standards. James Hardie has been tested and complies with ICC-ES ESR, National evaluation reports published by International Code Council Evaluation Services. Testing certifies that products are non-combustible (ASTM E136), approved for fire-resistance rated construction (ASTM E119), and has a flame spread index of 0 and smoke index <5 (ASTM E84).

Fire-resistance rated wall assemblies has been certified by Underwriter Laboratories (UL) to meet the requirements of 1-hour.
- UL Design No. U356 (BXUV.U356)
- U425

- JH/WA 60-11
- JH/WA 60-12
- JH/WA 120-01
- JH/WA 120-03

The use of these building materials in a rainscreen assembly design, with a minimum 3/8" (9.5mm) air cavity does not affect fire rated performance.

ASSEMBLIES
Three-Part Specification
Three-part format specification is available at: www.JamesHardieCommercial.com

CAD Details
For CAD files visit James Hardie's website at: www.JamesHardieCommercial.com

TECHNICAL SERVICES
James Hardie Building Products maintains a staff to assist building professionals with questions regarding products, installation, or technical needs. For questions, please call 1-800-942-7343 or email info@jameshardie.com.

Brochures and product samples can be requested by visiting www.JamesHardieCommercial.com

WARRANTIES
HardiePanel vertical siding includes a 30-year non-prorated limited transferable product only warranty. Siding is offered with ColorPlus® Technology, which comes with a 15-year express limited finish warranty.

For full warranty visit www.JamesHardieCommercial.com.