

Product Evaluation

EC23 | 0722

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: EC-23

Effective Date: July 1, 2022

Re-evaluation Date: February 2024

Product Name: Hardiepanel™®, Cempanel®, Hardieplank™®, Cemplank®, Prevail™, and Hardieshingle™®, fiber-reinforced cement exterior siding; Hardishingle™®, fiber-reinforced cement exterior cladding; and Hardie® Textured Panels fiber-reinforced cement exterior panels

Manufacturer: James Hardie Building Products, Inc.
10901 Elm Avenue
Fontana, CA 92337
(800) 426-4051

General Description:

Hardiepanel® , Prevail™ and Cempanel® panel siding is nominal 5/16" thick. The siding is 4' wide and comes in lengths of 8', 9', and 10'. The panels are available in smooth and woodgrain finishes.

Hardieplank® , Cemplank® , Prevail™, and Hardieshingle™® lap siding is nominal 5/16" thick. The siding comes in 8' and 12' lengths. The siding is available in widths up to 12". The siding is available in smooth and woodgrain finishes.

Hardieshingle™ cladding shingles are nominal 1/4" thick. When installed, the cladding has the appearance of wood shingles. The siding has the following dimensions:

| Product | HardieShingle™ Cladding Shingles | New HardieShingle™ Cladding Shingles |
|--|----------------------------------|--------------------------------------|
| Height (inches) | 16 | 15.25 |
| Shingle Widths (inches) | 6, 8, 12 | 4.2, 5.5, 6.75, 10 |
| Maximum Cladding Weather Exposure (inches) | 8 | 7 |

Hardieshingle™ panel cladding is nominal 1/4" thick. When installed, the cladding has an appearance of wood/ shingles. The cladding is available in half round, staggered edge, and straight edge panels. The siding has the following dimensions:

| Product | HardieShingle® Panels | New HardieShingle® Panels |
|--|-----------------------|---------------------------|
| Height (inches) | 16 or 19 | 15.25 or 15.875 |
| Panel Width (inches) | 48 | 48 |
| Maximum Cladding Weather Exposure (inches) | 7 | 7 |

HardieSoffit® unvented panel is nominal 1/4" thick. The soffit panel is available in widths from 12" to 4' and comes in 8' and 12' lengths. The panels are available in smooth and woodgrain finishes.

HardieSoffit® vented panel is nominal 1/4" thick. The soffit panel is available in widths from 12" to 2' and comes in 8' and 12' lengths. Vented HardieSoffit® panel provides 5 square inches of net free ventilation per lineal foot of soffit. The panels are available in smooth and woodgrain finishes.

Hardie® Textured Panels are nominal 5/16" thick. The panels come in 8', 10', and 12' lengths and can be installed horizontally or vertically. The panels are available in different textures.

Installation:

General Installation Requirements: All fasteners must be corrosion resistant.

HardiePlank®, HardiePanel®, HardieSoffit®, Prevail™ Panel, Prevail™ Lap, Cemplank® and **Cempanel®** siding: Install the siding over structural sheathing if nailed through the sheathing and into the framing members. If installing the siding over non-structural sheathing (foam, gypsum board, fiberboard), then the length of the fastener used to secure the siding to the wall framing shall be increased by the thickness of the non-structural sheathing. In assemblies 6 through 16, 29, 30, and 35, fasten the siding directly to minimum 7/16" thick wood structural panels.

HardiePlank®, **Prevail™ Lap** and **Cemplank®** siding: Vertical splices must occur over framing members except where the “off-stud splice device” is installed, or where the planks are fastened to solid wood structural panel sheathing. If the vertical splice occurs over a framing member, then the fastener must be between 3/8" and 1/2" from the vertical splice and between 3/4" and 1" from the edge of the siding. When using an off-stud “off-stud splice device”, splices must be located at least two stud cavities from the wall corner and one stud cavity away from door or window openings. Where the planks are fastened to wood structural panel sheathing, fastening must be in accordance with Assemblies 6 through 16, the fastener must be between 3/8" and 1/2" from the vertical splice and between 3/4" and 1" from the edge of the siding. Successive splices in the same plank must be at least 48" apart. Splices in successive planks vertically (i.e., planks above or below a given plank) must be offset at least one stud spacing.)

HardieShingle™,® cladding shingles: Install the cladding shingles directly to wood structural panels.

HardiePlank®, **Cemplank®**, **Prevail™**, and **HardieShingle™,®** lap siding, **HardieShingle™,®** cladding shingles, and **HardieShingle™,®** panels: Do not use these products as wall bracing.

Assembly No. 1

HardiePlank®, **Cemplank®**, **Prevail™ Lap Siding**, and **HardieShingle™,® Lap Siding (Exposed Nailing Method)**

The following products are applicable: Lap siding 12" in width or less.

Fastener: 0.092" shank, 2-1/2" long, 0.222" head

Design pressure: -37 psf

Installation: Wall studs must be minimum Spruce-Pine-Fir (SPF) dimension lumber spaced a maximum of 16" on center. Wall bracing must be installed as required. A building paper must be applied to the wall studs before installing the siding. The siding must be fastened to the wall studs with minimum 0.092" shank, 2-1/2" long, 0.222" head corrosion resistant nails using the exposed nailing method. The first HardiePlank®, Cemplank®, Prevail or HardieShingle plank should be installed horizontally over a 1-1/4" wide weather resistant lath starter strip. Fasteners should be located approximately 5/8" from the bottom of the plank. The remaining courses are then installed with minimum 1-1/4" wide overlaps. Flashing, trim, and corners should be installed according to the manufacturer’s specifications.

Assemblies No. 2 through No. 5

HardiePlank®, **Cemplank®**, **Prevail™ Lap Siding**, and **HardieShingle™,® Lap Siding (Concealed Nailing Method)**

Assembly No. 2

The following products are applicable: Lap siding 5-1/4" in width or less.

Fastener: 11-gauge roofing nail, 1-3/4" long, 3/8" head

Design pressure: -85.8 psf

Assembly No. 3

The following products are applicable: Lap siding 6-1/4" in width or less.

Fastener: 11-gauge roofing nail, 1-3/4" long, 3/8" head

Design pressure: -68.0 psf

Assembly No. 4

The following products are applicable: Lap siding 7-1/4" in width or less.

Fastener: 11-gauge roofing nail, 1-3/4" long, 3/8" head

Design pressure: -51.0 psf

Assembly No. 5

The following products are applicable: Lap siding 8-1/4" in width or less.

Fastener: 11-gauge roofing nail, 1-3/4" long, 3/8" head

Design pressure: -33.7 psf

Installation (Assemblies No. 2 through No. 5): Wall studs must be minimum 2x4 Douglas Fir-Larch dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. Apply a building paper to the wall studs before installing the siding. Fasten the siding to the wall studs using the concealed nailing method. Drive the fasteners through the top of the plank and into the framing member. Use fastener between 3/4" and 1" from the top edge of the plank and covered by the next succeeding course of planks. Install the first HardiePlank®, Cemplank®, Prevail, or HardieShingle plank horizontally over a 1-1/4" wide weather resistant lath starter strip. Install the remaining courses with minimum 1-1/4" wide overlaps. Install flashing, trim, and corners according to the manufacturer's specifications.

Assemblies No. 6 and No. 7

HardiePlank®, Cemplank®, Prevail™ Lap Siding, and HardieShingle™® Lap Siding (Concealed Nailing Method)

Assembly No. 6

The following products are applicable: Lap siding 5-1/4" in width or less.

Fastener: 11-gauge roofing nail, 1-3/4" long, 3/8" head

Design pressure: -38.2 psf

Assembly No. 7

The following products are applicable: Lap siding 6-1/4" in width or less.

Fastener: 11-gauge roofing nail, 1-3/4" long, 3/8" head

Design pressure: -30.5 psf

Installation (Assemblies No. 6 and No. 7): Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. The walls must be fully sheathed with minimum 7/16" wood structural panels. Apply a building paper to the walls before installing the siding. Fasten the siding to the wood structural panel sheathing using the concealed nailing method. At every 12" on center, drive the fasteners through the

top of the plank and into the wood structural panel. Use fastener between 3/4" and 1" from the top edge of the plank and covered by the next succeeding course of planks. Install the first HardiePlank®, Cemplank®, Prevail, or HardieShingle plank horizontally over a 1-1/4" wide weather resistant lath starter strip. Install the remaining courses with minimum 1-1/4" wide overlaps. Install flashing, trim, and corners according to the manufacturer's specifications.

Assemblies No. 8 and No. 9

HardiePlank®, Cemplank®, Prevail™ Lap Siding, and HardieShingle™® Lap Siding (Blind Nail Method)

Assembly No. 8

The following products are applicable: Lap siding 8-1/4" in width or less.

Fastener: 0.090" ring shank nail, 1-1/2" long, 0.215" head

Design pressure: -50.7 psf

Assembly No. 9

The following products are applicable: Lap siding 8-1/4" in width or less.

Fastener: 0.090" ring shank nail, 1-1/2" long, 0.215" head

Design pressure: -66.0 psf

Installation (Assemblies No. 8 and No. 9): Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 24" on center. Install wall bracing as required. The walls must be fully sheathed with minimum 7/16" wood structural panels. Apply a building paper to the walls before installing the siding. Fasten the siding to the wood structural panel sheathing using the concealed nailing method. For Assembly No. 8, at every 8" on center, drive the fasteners through the top of the plank and into the wood structural panel. For Assembly No. 9, at every 6" on center, drive the fasteners through the top of the plank and into the wood structural panel. The fastener should be between 3/4" and 1" from the top edge of the plank and covered by the next succeeding course of planks. Install the first HardiePlank®, Cemplank®, Prevail, or HardieShingle plank horizontally over a 1-1/4" wide weather resistant lath starter strip. Install the remaining courses with minimum 1-1/4" wide overlaps. Install flashing, trim, and corners according to the manufacturer's specifications.

Assemblies No. 10 through No. 16

HardiePlank®, Cemplank®, Prevail™ Lap Siding, and HardieShingle™® Lap Siding (Blind Screw Method)

Assembly No. 10

The following products are applicable: Lap siding 5-1/4" in width or less.

Fastener: No. 8 X 1-5/8" long X 0.375" head diameter ribbed wafer head screw

Design pressure: -103.5 psf

Assembly No. 11

The following products are applicable: Lap siding 6-1/4" in width or less.

Fastener: No. 8 X 1-5/8" long x 0.375" head diameter ribbed wafer head screw

Design pressure: -80.6 psf

Assembly No. 12

The following products are applicable: Lap siding 7-1/4" in width or less.

Fastener: No. 8 X 1-5/8" long x 0.375" head diameter ribbed wafer head screw

Design pressure: -65.3 psf

Assembly No. 13

The following products are applicable: Lap siding 7-1/2" in width or less.

Fastener: No. 8 X 1-5/8" long x 0.375" head diameter ribbed wafer head screw

Design pressure: -62.3 psf

Assembly No. 14

The following products are applicable: Lap siding 8" in width or less.

Fastener: No. 8 X 1-5/8" long x 0.375" head diameter ribbed wafer head screw

Design pressure: -56.9 psf

Assembly No. 15

The following products are applicable: Lap siding 8-1/4" in width or less.

Fastener: No. 8 X 1-5/8" long x 0.375" head diameter ribbed wafer head screw

Design pressure: -54.4 psf

Assembly No. 16

The following products are applicable: Lap siding 9-1/4" in width or less.

Fastener: No. 8 X 1-5/8" long x 0.375" head diameter ribbed wafer head screw

Design pressure: -46.3 psf

Installation (Assemblies No. 10 through No. 16): Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. The walls must be fully sheathed with minimum 7/16" wood structural panels. Apply a building paper to the walls before installing the siding. Fasten the siding to the wood structural panel sheathing using the concealed screwing method. At every 12" on center, drive the fasteners through the top of the plank and into the wood structural panel. Space the fastener between 3/4" and 1" from the top edge of the plank and covered by the next succeeding course of planks. Install the first HardiePlank®, Cemplank®, Prevail, or HardieShingle plank horizontally over a 1-1/4" wide weather resistant lath starter strip. Install the remaining courses with minimum 1-1/4" wide overlaps. Install flashing, trim, and corners according to the manufacturer's specifications.

Assemblies No. 17, No. 18, and No. 19**HardiePlank[®], Cemplank[®], Prevail[™] Lap Siding, and HardieShingle[™] Lap Siding (Exposed Nailing Method)**

The following products are applicable: Lap siding 8-1/4" in width or less.

Assembly No. 17

Fastener: 8d box (0.113") ring shank, 2-3/8" long wire nail, 0.260" head

Design pressure: -98.6 psf

Assembly No. 18

Fastener: 0.092" shank, 2-1/2" long, 0.222" head

Design pressure: -84.2 psf

Assembly No. 19

Fastener: 0.092" shank, 2" long, 0.222" head

Design pressure: -55 psf

Installation (Assemblies No. 17 through No. 19): Wall studs must be minimum 2x4 Douglas Fir-Larch dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. Apply a building paper to the wall studs before installing the siding. Fasten the siding to the wall studs using the exposed nailing method. Locate the fasteners approximately 5/8" from the bottom of the plank. Install the first HardiePlank[®], Cemplank[®], Prevail, or HardieShingle plank horizontally over a 1-1/4" wide weather resistant lath starter strip. Install the remaining courses with minimum 1-1/4" wide overlaps. Install flashing, trim, and corners according to the manufacturer's specifications.

Assemblies No. 20 through No. 23**HardiePlank[®], Cemplank[®], Prevail[™] Lap Siding, and HardieShingle[™] Lap Siding (Exposed Nailing Method)****Assembly No. 20**

The following products are applicable: Lap siding 8-1/4" in width or less.

Fastener: 0.092" shank, 2-1/2" long, 0.222" head

Design pressure: -56.0 psf

Assembly No. 21

The following products are applicable: Lap siding 8-1/4" in width or less.

Fastener: 0.092" shank, 2" long, 0.222" head

Design pressure: -47.8 psf

Assembly No. 22

The following products are applicable: Lap siding 9-1/4" in width or less.

Fastener: 0.092" shank, 2-1/2" long, 0.222" head

Design pressure: -49.2 psf

Assembly No. 23

The following products are applicable: Lap siding 9-1/2" in width or less.

Fastener: 0.092" shank, 2-1/2" long, 0.222" head

Design pressure: -47.9 psf

Installation (Assemblies No. 20 through No. 23): Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. Apply a building paper to the wall studs before installing the siding. Fasten the siding to the wall studs using the exposed nailing method. Locate the fasteners approximately 5/8" from the bottom of the plank. Install the first HardiePlank®, Cemplank®, Prevail or HardieShingle plank horizontally over a 1-1/4" wide weather resistant lath starter strip. Install the remaining courses with minimum 1-1/4" wide overlaps. Install flashing, trim, and corners according to the manufacturer's specifications.

Assembly No. 24

HardiePlank®, Cemplank®, Prevail™ Lap Siding, and HardieShingle™ Lap Siding (Exposed Nailing Method)

The following products are applicable: Lap siding 8-1/4" width or less.

Fastener: 8d box (0.113") ring shank, 2-3/8" long wire nail, 0.260" head

Design pressure: -66.3 psf

Installation: Wall studs must be minimum 2x4 Douglas Fir-Larch dimension lumber spaced a maximum of 24" on center. Install wall bracing as required. Apply a building paper to the wall studs before installing the siding. Fasten the siding to the wall studs using the exposed nailing method. Locate the fasteners approximately 5/8" from the bottom of the plank. Install the first HardiePlank®, Cemplank®, Prevail, or HardieShingle plank horizontally over a 1-1/4" wide weather resistant lath starter strip. Install the remaining courses with minimum 1-1/4" wide overlaps. Install flashing, trim, and corners according to the manufacturer's specifications.

Assembly No. 25

HardieShingle™ cladding shingle (Concealed Nailing Method)

Fastener: 0.091" shank diameter, 2.473" long, and 0.221" diameter head

Design pressure: -30 psf

Installation: Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. The walls must be fully sheathed with minimum 7/16" wood structural panels. Apply a building paper to the walls before installing the cladding. Install the fasteners nominally 1" from each edge and at the midpoint of the shingle. Locate the fasteners from the exposed edge as noted in the table below. Install the first course of cladding as the starter course consisting of shingles inverted and laid horizontal. Install flashing, trim, and corners according to the manufacturer's specifications.

| Product | HardieShingle™ Cladding Shingles | New HardieShingle™ Cladding Shingles |
|---|-------------------------------------|---|
| Fastener placement from exposed edge (inches) | 9 | 7-3/4 |

Assembly No. 26
HardieShingle™ cladding shingle (Concealed Nailing Method)

Fastener: 0.120" shank diameter, 1-1/4" long, and 3/8" diameter head
Design pressure: -33 psf

Installation: Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. The walls must be fully sheathed with minimum 7/16" wood structural panels. Apply a building paper to the walls before installing the siding. Fasten the cladding to the wall sheathing using the concealed nailing method. Install the fasteners nominally 1" from each edge and located from the exposed edge as noted in the table below. Install the first course of cladding as the starter course consisting of shingles inverted and laid horizontal. Install flashing, trim, and corners according to the manufacturer's specifications.

| Product | HardieShingle™ Cladding Shingles | New HardieShingle™ Cladding Shingles |
|---|-------------------------------------|---|
| Fastener placement from exposed edge (inches) | 9 | 7-3/4 |

Assembly No. 27
HardieShingle™ Panel Cladding

Fastener: 0.083" shank diameter, 1-1/2" long, and 0.187" diameter head
Design pressure: -64 psf

Installation: Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 16" on center. Apply a building paper to the walls before installing the siding. Fasten the cladding to the wall studs spaced 16" on center. Install the fasteners nominally 1/2" from each edge and located from the exposed edge as noted in the table below. Install flashing, trim, and corners according to the manufacturer's specifications.

| Product | HardieShingle™ Cladding Panels | New HardieShingle™ Cladding Panels |
|---|-----------------------------------|---------------------------------------|
| Fastener placement from exposed edge (inches) | 8 | 7-1/2 |

Assembly No. 28
HardieShingle™ Panel Cladding

Fastener: 0.083" shank diameter, 1-1/2" long, and 0.187" diameter head ring shank
Design pressure: -33 psf

Installation: Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 24" on center. Apply a building paper to the walls before installing the siding. Fasten the cladding to the wall studs spaced 24" on center. Install the fasteners nominally 1/2" from each edge and located from the exposed edge as noted in the table below. Install flashing, trim, and corners according to the manufacturer's specifications.

| Product | HardieShingle™ Cladding Panels | New HardieShingle™ Cladding Panels |
|---|--------------------------------|------------------------------------|
| Fastener placement from exposed edge (inches) | 8 | 7-1/2 |

Assemblies No. 29 and No. 30
HardieShingle™ Panel Cladding

Fastener: 0.090" ring shank nail, 1-1/2" long, 0.215" head; fastened at every 8" on center to wood structural pane
Design pressure: -60.0 psf

Installation: Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 24" on center. Install wall bracing as required. The walls must be fully sheathed with minimum 7/16" wood structural panels. Apply a building paper to the walls before installing the siding. Fasten the siding to the wood structural panel sheathing using the concealed nailing method. Install the fasteners nominally 1/2" from each edge and located from the exposed edge as noted in the table below. Install flashing, trim, and corners according to the manufacturer's specifications

| Product | New HardieShingle™ Cladding Panels |
|---|------------------------------------|
| Fastener placement from exposed edge (inches) | 7-1/2 |

Assemblies No. 31 through No. 34**HardiePanel[®], Cempanel[®] and Prevail™ Panel Siding****Assembly No. 31 (Wall studs 16 inches on center)**

Fasteners: 6d common wire; 4" on center along panel edges and along intermediate framing

Design pressure: -79 psf

Racking load resistance of siding: 233 plf

Assembly No. 32 (Wall studs 16 inches on center)

Fasteners: 6d common wire; 6" on center along panel edges and along intermediate framing

Design pressure: -49.7 psf

Racking load resistance of siding: 201 plf

Assembly No. 33 (Wall studs 24 inches on center)

Fasteners: 6d common wire; 4" on center along panel edges and along intermediate framing

Design pressure: -47.7 psf

Racking load resistance of siding: 212 plf

Assembly No. 34 (Wall studs 24 inches on center)

Fasteners: 6d common wire; 6" on center along panel edges and along intermediate framing

Design pressure: -31 psf

Racking load resistance of siding: 153 plf

Installation (When Used for Wind Pressure Resistance Only (Not Wall Bracing): Wall studs must be minimum Hem-Fir dimension lumber. Install wall bracing as required. Apply a building paper to the wall studs before installing the siding. Install the panel siding vertically with all vertical joints occurring over framing members. Horizontal panel edges are not required to be supported with blocking. Vertical panel edges only are required to be secured to the wall framing. Space the fasteners no closer than 3/8" from the edge and no closer than 2" from the corner.

Installation (When Used as Wall Bracing): Wall studs must be minimum Stud or No. 3 grade Hem-Fir dimension lumber. Install the panels with the long dimension in the vertical direction. Both horizontal and vertical joints must occur over framing members. Each siding panel used as wall bracing must be a minimum of 48" in width. The fasteners must penetrate the wall studs a minimum of 1-1/2". Fasten the siding to the upper member of the double top plate and to the sole plate. Nail all panel edges to the wall framing.

Assembly No. 35**HardiePanel[®], Cempanel[®], and Prevail[™] Panel Siding****Fastener:** No. 8 X 1-5/8" long x 0.375" head diameter ribbed wafer head screw**Design pressure:** -53.8 psf

Installation: Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. The walls must be fully sheathed with minimum 7/16" wood structural panels. Apply a building paper to the walls before installing the siding. Install the panel siding vertically with all vertical joints occurring over wall framing members. Horizontal panel joints are not required to occur over wall framing. Fasten the siding directly to the wood structural panel sheathing at every 6" on center vertically and every 12" on center horizontally. Horizontal panel joints are not required to be secured to wall framing. Space the fasteners no closer than 3/8" from the edge and no closer than 2" from the corner. Install flashing, trim, and corners according to the manufacturer's specifications.

Assemblies No. 36 and No. 37**HardieSoffit[®] Unvented Panel, HardieSoffit[®] Vented Panel****Assembly No. 36****Fastener:** 6d common wire; 4" on center along panel edges and along intermediate framing**Design pressure:** -54.0 psf**Assembly No. 37****Fastener:** 0.092" shank, 2" long, 0.235" head; 4" on center along panel edges and along intermediate framing**Design pressure:** -48.0 psf

Installation (Assemblies No. 36 and No. 37): Joists must be minimum 2x4 SPF dimension lumber spaced a maximum of 24" on center. Install the panel siding with all joints occurring over framing members. Space the fasteners no closer than 3/8" from the edge and no closer than 2" from the corner. Install flashing, trim, and corners according to the manufacturer's specifications.

Assembly No. 38 and No. 39**HardieSoffit[®] VentedPlus[™] Panel****Assembly No. 38****Fastener:** 6d common wire; 4" on center along panel edges and along intermediate framing**Design pressure:** -63.2 psf**Assembly No. 39****Fastener:** 0.092" shank, 2" long, 0.215" head; 4" on center along panel edges and along intermediate framing**Design pressure:** -53.0 psf

Installation (Assemblies No. 38 and No. 39): Joists must be minimum 2x4 SPF dimension lumber spaced a maximum of 24" on center. Install the panel siding with all joints occurring over framing members. Space the fasteners no closer than 3/8" from the edge and no closer than 2" from the corner. Install flashing, trim, and corners according to the manufacturer's specifications

Assemblies No. 40 through No. 42

HardiePlank™, Cemplank®, Prevail™ Lap Siding, and HardieShingle™ Lap Siding (Exposed Nailing Method)

Assembly No. 40 (Wall studs 16" on center)

The following products are applicable: Lap siding 12" in width or less.

Fastener: ET&F or equivalent 0.100", 1-1/2" long, and 0.250" diameter head knurled shank

Design pressure: -50 psf

Assembly No. 41 (Wall studs 16 inches on center)

Fastener: ET&F or equivalent 0.100", 1-1/2" long, and 0.250" diameter head knurled shank

Design pressure: -77.7 psf

Assembly No. 42 (Wall studs 24 inches on center)

Fastener: ET&F or equivalent 0.100", 1.5" long, and 0.250" diameter head knurled shank

Design pressure: -42.3 psf

Installation (Assemblies No. 40 through No. 42): Wall studs must be minimum number 20-gauge 3-5/8" metal C-studs. Install wall bracing as required. Apply building paper to the wall studs before installing the siding. Fasten the siding to the wall studs using the exposed nailing method. Locate the fasteners approximately 5/8" from the bottom of the plank. Install the first HardiePlank®, Cemplank®, Prevail, or HardieShingle plank horizontally over a 1-1/4" wide weather resistant lath starter strip. Install the remaining courses with minimum 1-1/4" wide overlaps. Install flashing, trim, and corners according to the manufacturer's specifications.

Assembly No. 43

HardieShingle™ panel cladding

Fastener: ET&F or equivalent 0.104", 2" long, and 0.313" diameter head knurled shank

Design pressure: -56 psf

Installation: Wall studs must be minimum number 18-gauge 3-5/8" metal C-studs spaced a maximum of 16" on center. Apply building paper to the walls before installing the siding. Fasten the cladding to the wall studs using a concealed nailing method. Install the fasteners nominally 1/2" from each edge and located from the exposed edge as noted in the table below. Install flashing, trim, and corners according to the manufacturer's specifications.

| Product | HardieShingle™ Panels | New HardieShingle™ Panels |
|---|-----------------------|---------------------------|
| Fastener placement from exposed edge (inches) | 8 | 7-1/2 |

Assemblies No. 44 and No. 45
HardiePanel®, Cempanel®, and Prevail™ Panel Siding

Assembly No. 44 (Wall studs 16" on center)

Fastener: ET&F or equivalent 0.100", 1-1/2" long, and 0.250" diameter head knurled shank, 4" on center along panel edges and 8" on center along intermediate framing

Design pressure: -57 psf

Assembly No. 45 (Wall studs 24 inches on center)

Fastener: ET&F or equivalent 0.100", 1-1/2" long, and 0.250" diameter head knurled shank, 4" on center along panel edges and 8" on center along intermediate framing

Design pressure: -33 psf

Installation (Assemblies No. 44 and No. 45): Wall studs must be minimum number 20-gauge 3-5/8" metal C-studs. Install wall bracing as required. Apply building paper to the wall studs before installing the siding. Install the panel siding vertically with all joints occurring over framing members. Space the fasteners no closer than 3/8" from the edge and no closer than 2" from the corner.

Assembly No. 46
HardiePanel® Siding

Fastener: HardieNail Studless Siding Fastener (TetraGrip) 0.117", 1-1/8" long, and 0.30" diameter nail fastened to wood structural panel at 12" x 12" on center

Design pressure: -39 psf

Installation: Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 24" on center. Install wall bracing as required. The walls must be fully sheathed with minimum 7/16" wood structural panels. Apply a building paper to the walls before installing the siding. Fasten the siding directly to the wood structural panel sheathing. Space the fasteners no closer than 3/8" from the edge and no closer than 2" from the corner. Install flashing, trim, and corners according to the manufacturer’s specifications.

Assemblies No. 47 through No. 50

HardiePanel® Siding

Assembly 47

Fastener: No. 8 X 1-1/4" long x 0.323" head diameter ribbed bugle head screw; fastened to SPF wood furring material at 6" on center

Design pressure: -54 psf

Assembly 48

Fastener: No. 8 X 1-1/4" long x 0.323" head diameter ribbed bugle head screw; fastened to SPF wood furring material at 8" on center

Design pressure: -44 psf

Assembly 49

Fastener: No. 8 X 1-1/4" long x 0.323" head diameter ribbed bugle head screw; fastened to SPF wood furring material at 12" on center

Design pressure: -35 psf

Assembly 50

Fastener: 0.090" ring shank nail, 1-1/2" long, 0.215" head; fastened to SPF wood furring material at 6" on center

Design pressure: -49 psf

Installation (Assemblies No. 47 through No. 50): Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. Apply a building paper to the walls before installing the siding. Furring material must be minimum 1x4 SPF lumber attached to framing members in accordance with the design of the project engineer. Fasten the siding directly to the wood furring. Space the fasteners no closer than 3/8" from the edge and no closer than 2" from the corner. Install flashing, trim, and corners according to the manufacturer's specifications.

Assemblies No. 51 through No. 65
HardiePlank® Lap Siding (Concealed Nailing Method)

Fastener: HardieNail Studless Siding Fastener (TetraGrip) 0.117", 1-1/8" long, and 0.30" diameter nail fastened to wood structural panel in accordance with the spacing specified in the following table.

| Assembly No. | Maximum Lap Siding Width | Fastener Spacing | Design Pressure (psf) |
|--------------|--------------------------|------------------|-----------------------|
| 51 | 9.25 | 12 | -39.5 |
| 52 | 9.25 | 16 | -31.2 |
| 53 | 8.25 | 12 | -42.7 |
| 54 | 8.25 | 16 | -34.1 |
| 55 | 7.25 | 12 | -47.0 |
| 56 | 7.25 | 16 | -37.9 |
| 57 | 7.25 | 20 | -32.4 |
| 58 | 6.25 | 12 | -53.0 |
| 59 | 6.25 | 16 | -43.3 |
| 60 | 6.25 | 20 | -37.4 |
| 61 | 6.25 | 24 | -33.5 |
| 62 | 5.25 | 12 | -62.1 |
| 63 | 5.25 | 16 | -51.4 |
| 64 | 5.25 | 20 | -44.9 |
| 65 | 5.25 | 24 | -40.7 |

Installation (Assemblies No. 51 through 65): Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 24" on center. Install wall bracing as required. The walls must be fully sheathed with minimum 7/16" wood structural panels. Apply a building paper to the walls before installing the siding. Fasten the siding to the wood structural panel sheathing using the concealed nailing method. The fastener should be between 3/4" and 1" from the top edge of the plank and covered by the next succeeding course of planks. Install the first HardiePlank®, Cemplank®, Prevail, or HardieShingle plank horizontally over a 1-1/4" wide weather resistant lath starter strip. Install the remaining courses with minimum 1-1/4" wide overlaps. Install flashing, trim, and corners according to the manufacturer’s specifications.

Assembly No. 66
Hardie® Textured Panels

Installed Directly to Wall Studs

Fastener: 16-gauge x 1-1/2" stainless-steel Finish nails, 4" on center along panel edges and along intermediate framing.

Design pressure: -37 psf

Installation: Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. The panels may be installed directly to the wall studs (no sheathing is required). Blocking between panel joints is not required. Apply a weather resistive barrier before installing the panels as required by James Hardie and the building code. Secure the panels to the wall framing with the fasteners. Locate the fasteners no closer than 3/8" from the edge of the panel and no closer than 2" from the corners.

Assembly No. 67

Hardie® Textured Panels

Installed Over Solid Sheathing (OSB or Plywood)

Fastener: 16-gauge x 1-1/2" stainless-steel Finish nails, 4" on center along panel edges and along intermediate framing.

Design pressure: -42.9 psf

Installation: Wall studs must be minimum 2x4 SPF dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. The walls must be fully sheathed. The sheathing must be minimum nominal 7/16" OSB. Plywood may be used instead of OSB. Blocking between panel joints is not required. Apply a weather resistive barrier before installing the panels as required by James Hardie and the building code. Secure the panels to the wall framing through the sheathing and when joining panels off stud, panel edges may be secured to the sheathing only. Locate the fasteners no closer than 3/8" from the edge of the panel and no closer than 2" from the corners.

Assemblies No. 68 through No. 71

Hardie® Panel 16-inch Siding (Fasteners into Wall Studs)

Assembly 68

Fastener: 0.090" shank diameter, 1-1/2" long, 0.215" head diameter ring shank. Fasteners applied 6" on center into the wall studs.

Design pressure: -67.2 psf

Assembly 69

Fastener: 0.090" shank diameter, 1-1/2" long, 0.215" head diameter ring shank. Fasteners applied 8" on center into the wall studs.

Design pressure: -55.1 psf

Assembly 70

Fastener: 0.090" shank diameter, 1-1/2" long, 0.215" head diameter ring shank. Fasteners applied 10" on center into the wall studs.

Design pressure: -42.9 psf

Assembly 71

Fastener: 0.090" shank diameter, 1-1/2" long, 0.215" head diameter ring shank. Fasteners applied 12" on center into the wall studs.

Design pressure: -30.7 psf

Installation: Wall studs must be minimum 2x4 Douglas Fir-Larch dimension lumber spaced a maximum of 16" on center. Install wall bracing as required. Walls are not required to be fully sheathed for the tested assembly; however, wall bracing must be installed as required and sheathing installed if required by code or by the local jurisdiction. Apply a building paper to the walls before installing the siding. Fasten the siding to the wall studs. Space the fasteners no closer than 3/8" from the edge and no closer than 2" from the corner. Install flashing, trim, and corners according to the manufacturer's specifications.

Assemblies No. 72 through No. 75**Hardie® Panel 16-inch Siding (Fasteners into Sheathing)****Assembly 72**

Fastener: 0.090" shank diameter, 1-1/2" long, 0.215" head diameter ring shank. Fasteners applied 6" on center into the wall sheathing.

Design pressure: -50.5 psf

Assembly 73

Fastener: 0.090" shank diameter, 1-1/2" long, 0.215" head diameter ring shank. Fasteners applied 8" on center into the wall sheathing.

Design pressure: -42.4 psf

Assembly 74

Fastener: 0.090" shank diameter, 1-1/2" long, 0.215" head diameter ring shank. Fasteners applied 10" on center into the wall sheathing.

Design pressure: -34.8 psf

Assembly 75

Fastener: 0.090" shank diameter, 1-1/2" long, 0.215" head diameter ring shank. Fasteners applied 12" on center into the wall sheathing.

Design pressure: -27.2 psf

Installation: Wall studs must be minimum 2x4 Douglas Fir-Larch dimension lumber spaced a maximum of 24" on center. Install wall bracing as required. The walls must be fully sheathed with minimum 7/16" wood structural panels (OSB or plywood). Apply a building paper to the walls before installing the siding. Fasten the siding directly to the wood structural panel sheathing (fasteners not required to penetrate wall studs). Space the fasteners no closer than 3/8" from the edge and no closer than 2" from the corner. Install flashing, trim, and corners according to the manufacturer's specifications.

Note: Keep the manufacturer's installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.