HardieSoffit® Panel Products Description

HARDIESOFFIT® PANELS

HardieSoffit® panels are 2,438mm (8 ft) and 3,658mm (12 ft) long, 6mm (¼ in) thick factory-primed fiber-cement panels designed to be used on the underside of eaves as soffit material. HardieSoffit panels are available as vented or non-vented boards. Vented HardieSoffit panels provide 3,225.8mm² (5 in²) of net free ventilation per lineal foot of soffit.

James Hardie offers HardieSoffit panels in a range of time-saving pre-cut widths common to rake and eave applications. HardieSoffit panels come in either a smooth finish or Select Cedarmill® textured finish. Check with your local dealer for product availability. HardieSoffit panels can be combined with HardieTrim® Fascia boards used for fascia rakes and frieze applications to complete the eaves detailing.

HardieSoffit panels are also available with ColorPlus® Technology. The ColorPlus® coating is a factory-applied, oven-baked finish available on a variety of James Hardie® siding and trim products. See your local dealer for details and availability of products, colors and accessories.
**Installation of HardieSoffit® Panels**

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HardieSoffit® panels must be attached to solid framing such as 2x4 supports spaced no more than 610mm (24 in) o.c. For eaves install HardieSoffit panels with the long edge of the panel perpendicular to the ends of the rafters or joists. Eaves framing must include a subfascia, blocking, and/or ledger board to provide solid nailing along the long dimension of the soffit. All panel edges must be supported.

For rake overhangs 2x “look outs” spaced a maximum of 610mm (24 in) o.c. should support a rake subfascia to provide adequate nailing for the rake soffit. Blocking between the lookouts provides support for the rake soffit along the building.

**JOINT TREATMENT FOR HARDIESOFFIT PANELS**

There are several ways to join the lengths of HardieSoffit panels. Panel ends may be lightly butted in moderate contact, the ends may be gapped 3mm (1/8 in) and caulked, joints can be covered with batten strips, or panels may be joined with PVC or metal H molding type connectors.

*TIP:* To aid in soffit panel installation, make a “deadman” or “third hand” post to help hold and position the soffit panel. Factory built tools such as those made for drywall installation are available, or they can be fabricated from lumber on the job-site.
When installing the soffit:

1) Straighten the rafter tails by pulling and snapping a chalk line across the ends of the tails and then trimming them as necessary.

2) Install a solid wood sub-fascia on the ends of the rafter tails or install blocking between the rafter tails as needed.

3) If the soffit is to be installed level across its width, add nailers at every rafter or truss to provide support.

4) If the eaves are longer than 3,658mm (12 ft), measure and trim the first HardieSoffit® panel making sure that the end falls in the middle of a nailer.

5) Using the subfascia as a guide along the edge, carefully position the panel and secure with 4d common galvanized nails spaced no greater than 203mm (8 in) o.c. at all panel edges and on all intermediate framing members.

6) Continue with additional pieces until the run is complete.

**CUTTING 45° HIP ROOF SOFFITS**

Hip roof soffits continue level around the corners of a house. The soffit panels should join at the corner with 45° angle cuts. To create these corners:

1) First measure from the corner to the perpendicular framing member closest to, but not over 3,658mm (12 ft).

2) Using that measurement and pulling from the factory cut end of the soffit panel, mark the outside edge of the soffit panel for the long point of the 45° cut.

3) After cutting the 45° angle, position the panel on the soffit framing and check the fit on both ends before fastening.

4) Begin nailing at the 45° cut end and work toward the factory end.

**WARNING**

When using vented soffit, place the vented section of the panel toward the outside of the eave for optimum airflow.
TREATMENT OPTIONS FOR THE SIDING/SOFFIT JUNCTURE

In addition to the frieze board treatments described above, there are several other options for finishing the juncture where the siding meets the soffit.

CAULK THE SIDING/SOFFIT JOINT

A fast and economical method of finishing the siding/soffit juncture is simply to run a bead of quality caulk along the top edge of the siding where it meets the soffit. A straight rip cut along the top edge of the siding ensures an aesthetically pleasing fit where it meets the soffit.

INSTALL CROWN MOLDING

Crown molding is another way of finishing and sealing the soffit/siding juncture. Install and finish the crown molding according to the manufacturer’s specifications.

OVER THE TOP OF THE SIDING WITH ‘J’ CHANNEL

Once the soffit is in place, install a vinyl “J” channel upside down with the base of the “J” against the soffit. Then rip the final course of siding so that it fits inside the channel.

INSECT SCREEN

In areas where additional insect protection is desired, a screen may be applied to the back side of the panel prior to soffit installation. After the screen type and size is selected, cut the screen to fit so that it covers the vent holes and overlaps the non-vented area of the soffit by 25mm (1 in) to 50mm (2 in). Secure the screen to the backside of the soffit panel using a bead of construction adhesive.

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

HARDIESOFFIT® PANEL FASTENER SPECIFICATIONS

The Fastener Specifications table shows fastener options for a variety of different nailing substrates. Please refer to the applicable wind load table to determine which fastener meets your wind load design criteria.
INSTALLATION:

Appropriate gap and caulk (fig. 2).

- Install panels in moderate contact at ends, provide PVC or metal jointers, battens or leave joint away from corners when using soffit that is less than or equal to 305mm (12") wide (fig. 3) and no closer than 25mm (1") from corners when using soffit greater than 305mm (12") wide (fig. 4) and no closer than 25mm (1") from corners when using soffit that is less than or equal to 305mm (12") wide (fig. 3).

General Requirements:

- References to the 2005 National Building Code (NBC) of Canada are made throughout this document. Local building code requirements may supersede the NBC in some locations.
- HardieSoffit® panels may be installed over either steel or wood framing complying with the local building code. Install soffits to nominal 2 x 4 framing members spaced a maximum of 610mm (24") on center (fig. 4), with the long dimension perpendicular to the rafter or joist framing.
- All edges must be supported by framing. (figs. 3 & 4)
- Install water barriers (compliant with Part 9.27.3.2 of the NBC) and air barriers as required by local building codes. James Hardie will assume no responsibility for moisture infiltration.

Installation:

- HardieSoffit® panels must be fastened to a solid, nailable substrate such as a wood 2x subfascia.
- Additional framing may be needed to ensure proper fastening.
- Soffits can be installed as shown in figure 1. Position the vent holes toward the outside of the eave for optimal airflow.

305mm (12") to 610mm (24") wide Vented HardieSoffit panels, provide [5 square inches of net free ventilation per lineal foot].

- 305mm (12") to 610mm (24") wide Vented HardieSoffit panels, provide [5 square inches of net free ventilation per lineal foot].

- Alternatively vents can be installed into non-vented soffit.
- If necessary, an insect screen can be installed using construction adhesive. Note: net free ventilation per lineal foot.
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- Soffits can be installed as shown in figure 1. Position the vent holes toward the outside of the eave for optimal airflow.

Cutting Instructions:

- Never use a power saw indoors.
- Never use a circular saw blade that does not carry the HardieBlade saw blade trademark.
- Never dry sweep. Use wet suppression or HEPA vacuum.
- 305mm (12") Wide Soffit.

Cutting Instructions:

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

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

Fastener Requirements:

- Position fasteners 9.5mm (3/8") from panel edges and no closer than 50mm (2") away from corners when using soffit greater than 305mm (12") wide (fig. 4) and no closer than 25mm (1") away from corners when using soffit that is less than or equal to 305mm (12") wide (fig. 3).

Jointing Methods:

- Install panels in moderate contact at ends, provide PVC or metal jointers, battens or leave appropriate gap and caulk (fig. 2).

Figure 1

Figure 2

Figure 3

Figure 4

Warning: Avoid Breathing Silica Dust

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

• Fasteners must be installed with a minimum 9.5mm (3/8") edge distance and 50mm (2") clearance from end of panel.
• For wood frame construction a minimum 4d common nails spaced 200mm (8") o.c. at panel edges and intermediate framing members spaced up to 610mm (24") on center are suitable in most locations*.
• For conventional 20ga steel frame construction a minimum No. 8-18 x 8.2mm x 25mm (1") long ribbed bugle screws spaced 150mm (6") o.c. at panel edges and intermediate framing members spaced up to 610mm (24") on center are suitable in most locations*.

*KMinimum Basic Wind Speed differs by locality. Where specified levels of wind resistance are required, refer to tables 1 & 2 in this document.

GENERAL FASTENING REQUIREMENTS

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

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

PNEUMATIC FASTENING

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

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

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

CAULKING

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

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie ColorPlus products. 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 new HardiePlank® lap siding with ColorPlus® Technology.
- Laminate sheet must be removed immediately after installation of each course.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coaters, available from your ColorPlus product dealer. Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up, will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

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

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:
- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain, oil/alkyd base paint, or powder coating on James 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 ColorPlus products, refer to the ColorPlus touch-up section

COMPLIANCE:

HardieSoffit® panel complies with ASTM Specification C1186 (Grade II, Type A) and IS0 Standard 8336 (Category 3, Type A).

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

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

RECOGNITION:

HardieSoffit® panel may be recognized as an alternative to exterior wall cladding in section 9.27 of the NBC. For technical assistance, call 1-800-9-HARDIE.
<table>
<thead>
<tr>
<th>PRODUCT THICKNESS (mm)</th>
<th>FASTENER TYPE</th>
<th>FASTENER SPACING</th>
<th>FRAME TYPES</th>
<th>MAXIMUM STUD SPACING (mm)</th>
<th>ULTIMATE LOAD @ FAILURE (kPa) (psf)</th>
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<tr>
<td>4.5mm (.2&quot;)</td>
<td>4d common nail 38 mm (1.5&quot;) long</td>
<td>150 mm (6&quot;) on center</td>
<td>Nominal 2 x wood (s.g &gt; .42)</td>
<td>406mm (16&quot;)</td>
<td>4.48 93.5</td>
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<tr>
<td>4.5mm (.2&quot;)</td>
<td>Min. No. 8 x 8.2 mm HD x 25 mm (1&quot;) long ribbed bugle head screw</td>
<td>150 mm (6&quot;) on center</td>
<td>Min. No. 20 ga x 92 mm x 35 mm (1.4&quot;) metal framing</td>
<td>406mm (16&quot;)</td>
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<td>6.4mm (.25&quot;)</td>
<td>4d common nail 38 mm (1.5&quot;) long</td>
<td>200 mm (8&quot;) on center</td>
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<td>Min. No. 20 ga x 92 mm x 35 mm (1.4&quot;) metal framing</td>
<td>610mm (24&quot;)</td>
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Table 2 – Ultimate wind load for Vented HardieSoffit panel

<table>
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<tr>
<th>PRODUCT THICKNESS (mm)</th>
<th>FASTENER TYPE</th>
<th>FASTENER SPACING</th>
<th>FRAME TYPES</th>
<th>MAXIMUM STUD SPACING (mm)</th>
<th>ULTIMATE LOAD @ FAILURE (kPa) (psf)</th>
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<td>Minimum 2.1 mm x 4.8 mm HD x 38 mm (1.5&quot;) long</td>
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<td>OR Min. No. 8 x 8.2 mm HD x 25 mm (1&quot;) long ribbed bugle head screw</td>
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<td>OR Min. No. 20 ga x 92 mm x 35 mm (1.4&quot;) metal framing</td>
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**METRIC TO IMPERIAL CONVERSION TABLE**

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

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