






Installation guide

PHILIPPINES
NOVEMBER 2017

IMPORTANT NOTES



1. Failure to install, finish or maintain this product in accordance with applicable building codes, regulations, standards and James Hardie's written installation recommendations may lead to personal injury, affect system performance, violate local building codes, and void James Hardie's product warranty.
2. All warranties, conditions, liabilities (direct, indirect or consequential) and obligations whether arising in negligence or otherwise, other than those specified in James Hardie's product warranty, are excluded to the fullest extent allowed by law. For James Hardie's product warranty information and disclaimers about the information in this manual, see the section at the end of this manual.
3. The builder must ensure that the product meets aesthetic requirements before installation. James Hardie will not be responsible for rectifying aesthetic surface variations following installation.
4. Make sure your information is up to date. When specifying or installing James Hardie products, ensure you have the current manual. If in doubt, or you need more information, visit www.jameshardie.com.ph or Ask James Hardie™ at 0918-8-HARDIE or (632) 895-5427. Toll-free numbers: #5454 (via Smart/Sun mobile phone) 1-800-1-888-5427 (via PLDT landline).

HARDIEFLEX [®] EAVES					
	PRODUCT CODE	FINISH	LENGTH (MM)	WIDTH (MM)	THICKNESS (MM)
	404905	Plain Pre-cut	1200	600	4.5
	404911	Slotted	1200	600	4.5
	404918	Perforated	1200	600	4.5
	404906	Plain Wood Grain	1200	1200	4.5
	404904	Plain Wood Grain	1200	1200	6.0
	404919	Slotted Wood Grain	1200	1200	4.5
	404952	Slotted Wood Grain	1200	1200	6.0

NOTES

All dimensions and masses provided are approximate only and subject to manufacturing tolerances. Masses are based on equilibrium moisture content of product.

ACCESSORIES / TOOLS SUPPLIED BY JAMES HARDIE

ACCESSORIES	DESCRIPTION	ACCESSORIES	DESCRIPTION
	HardieFlex[®] Scoring Knife Scoring Tool for easy cutting of HardieFlex [®] Eaves sheets. Part Code: 305435		HardieDrive[®] Nails 32 x 2.0mm galvanized nail for fixing HardieFlex [®] Eaves to seasoned timber. Part Code: 305436
	HardieDrive[®] Screw 20mm long A self-drilling screw for fixing HardieFlex [®] 3.5 mm, 4.5mm, 6.0mm to light gauge steel frames (0.55mm to 1.6mm BMT). Part Code: 305757 (70 pcs. per pack) 305759 (1000 pcs. per pack)		HardiePutty[™] Jointing Compound Used as a finishing compound on top of the epoxied joints. Available in three sizes: 25 kg pail – Product Code: 305906 5 kg tub – Product Code: 305905 1.5 kg tub – Product Code: 305904

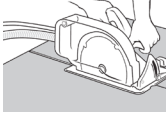
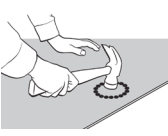
ACCESSORIES / TOOLS NOT SUPPLIED BY JAMES HARDIE

James Hardie recommends the following products for use in conjunction with HardieFlex[®] Eaves. James Hardie does not supply these products and does not provide a warranty for their use. Please contact the component manufacturer for information on their warranties and further information on their products.

	Epoxy Structural Epoxy used to join HardieFlex [®] Eaves sheet joints during sheet installation.		Self-Adhesive Mesh Tape Used in conjunction with Epoxy and HardiePutty [™] Jointing Compound for a seamless joint finish.
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SAFE WORKING INSTRUCTIONS

Refer to Recommended Safe Working Practices before starting any cutting or machining of product.

	HardieBlade[™] Saw Blade The HardieBlade [™] Saw Blade used with a dust reducing saw and HEPA vacuum extraction allows for fast, clean cutting of James Hardie fibre cement products. A dust-reducing saw uses a dust deflector or a dust collector connected to a vacuum system. When sawing, clamp a straight-edge to the sheet as a guide and run the saw base plate along the straight edge when making the cut.
	Hole-Forming <i>For smooth clean cut circular holes:</i> <ul style="list-style-type: none"> • Mark the center of the hole on the sheet. • Pre-drill a 'pilot' hole. • Using the pilot hole as a guide, cut the hole to the appropriate diameter with a hole saw fitted to a heavy duty electric drill. <i>For irregular holes:</i> <ul style="list-style-type: none"> • Small rectangular or circular holes can be cut by drilling a series of small holes around the perimeter of the hole then tapping out the waste piece from the sheet face. • Tap carefully to avoid damage to sheets, ensuring that the sheet edges are properly supported.

WARNING DO NOT BREATHE DUST AND CUT ONLY IN WELL VENTILATED AREA

James Hardie products contain sand, a source of respirable crystalline silica which is considered by some international authorities to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) minimize dust when cutting by using either a scoring knife, fiber cement shears 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 to avoid breathing dust; (4) wear a properly-fitted, approved dust mask or respirator (e.g. P1 or P2) 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 Sheets available at www.jameshardie.com.ph. FAILURE TO ADHERE TO OUR WARNINGS, MATERIAL SAFETY DATA SHEETS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

JAMES HARDIE RECOMMENDED SAFE WORKING PRACTICES

CUTTING OUTDOORS

1. Position cutting station so wind will blow dust away from the user or others in working area.
2. Use a dust reducing circular saw equipped with HardieBlade[™] Saw blade and HEPA vacuum extraction.

SANDING/DRILLING/OTHER MACHINING

When sanding, drilling or machining you should always wear a P1 or P2 dust mask and warn others in the immediate area.

IMPORTANT NOTES

1. NEVER use a power saw indoors.
2. NEVER use a circular saw blade that does not carry the HardieBlade[™] logo.
3. NEVER dry sweep - Use wet suppression or HEPA vacuum.
4. NEVER use grinders.
5. ALWAYS follow tool manufacturers' safety recommendations.

P1 or P2 respirators should be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com.ph to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

STORAGE AND HANDLING

To avoid damage, all James Hardie building products should be stored with edges and corners of the sheets protected from damage.

James Hardie building products must be installed in a dry state and protected from weather during transport and storage. The stored product must be laid flat under cover on a smooth level surface clear of the ground to avoid exposure to water, moisture, etc.

Protective gloves must be worn while handling sheets.

SCOPE

This manual covers the use of HardieFlex® Eaves in an external boxed eaves application over a seasoned timber frame or a light gauge steel frame.

DESIGN General

All design and construction must comply with the appropriate requirements of the current National Building Code of the Philippines.

Responsibility

The specifier or other party responsible for the project must ensure that the details in this specification are appropriate for the intended application and that additional detailing is performed for specific design or any areas that fall outside the scope of this specification.

Other factors such as location, roof insulation, type of roofing etc. can contribute to the effective ventilation of ceilings & attics. The HardieFlex® Eaves can contribute to the effective ventilation but must not be relied upon as the only means of ventilation.

FRAMING General

HardieFlex® Eaves can be fixed to either timber or light gauge domestic type steel framing. The framing used must comply with the relevant building regulations, standards and requirements of this Installation guide.

James Hardie is not responsible for structural design of frames nor does it sell them. Frame design and connection details must be approved by the relevant specialist or designer of the project.

NOTE

Ensure all sheet edges are fully supported with framing members.

Timber

Use only seasoned (kiln dried) timber. Unseasoned timber must not be used, as it is prone to shrinkage

and can cause the sheets and frames to move. Minimum width of joist = 50mm

Steel

The thickness of the steel joist framing should be between 0.55mm-1.6mm base metal thickness (BMT). Minimum width of joist = 50mm

Preparation Of Frame

Ensure frame is square and straight, and work from a central datum line. Frames must be straight to provide a flush face to receive the sheeting.

A suggested maximum tolerance of between 3mm and 4mm in any 3m length of frame will give best results. HardieFlex® Eaves will not straighten excessively warped or distorted frames and any warping may still be visible after the lining is applied.

FASTENING

Use HardieDrive® Screw 20mm for HardieFlex® 4.5mm thick sheets for fixing to light gauge steel frame. For fixing to timber frames use HardieDrive® Nails.

For appropriate frame and fastener spacing, see Table 1 - Frame and Fastener Spacing.

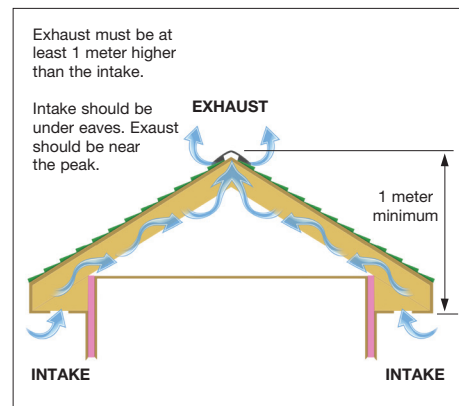
FINISHING AND MAINTENANCE Paint Finishes

Prior to application of paint finishes, remove any residual sanding dust and ensure the surface is suitable for paint application. HardieFlex® Eaves must have a minimum of two coats of acrylic/latex paint applied after fixing. Coating should be completed within 1 month of sheet installation. Use only quality 100% acrylic/latex paints. Always follow the paint manufacturer's recommendation for paint suitability, mixing and application. Ensure all exposed surfaces are fully painted.

NOTE

Use of a 'sealer coat' or 'preparation undercoat' is recommended.

GENERAL OVERVIEW Location of vents

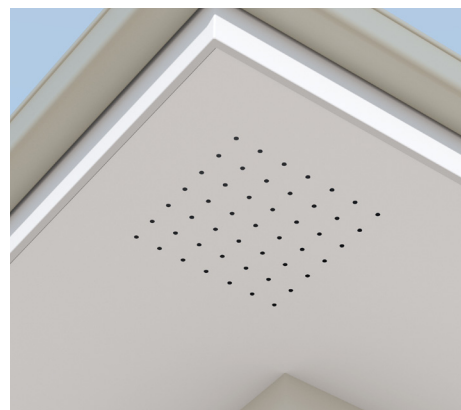


The location of vents for ventilation.

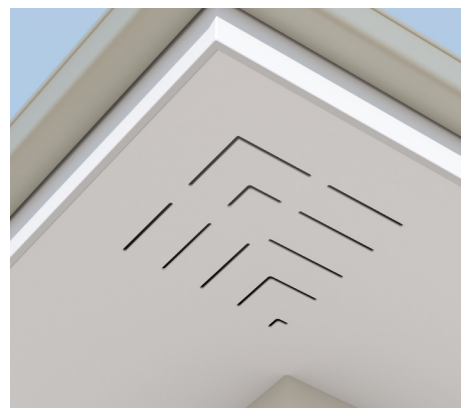
Vent designs



Slotted Corners with seamless jointing.



Perforated Corners with seamless jointing.



Slotted Mitered Corners with seamless jointing.

TABLE 1 - FRAME AND FASTENER SPACING

EXPOSURE B: UP TO 9 METERS EAVES HEIGHT						
WIND DESIGN	GENERAL AREAS OF BUILDING (i.e. no edge turbulence effects)			WITHIN 1200mm OF BUILDING EDGES (measured from building edge)		
Wind Speed Contour (km/h)	Maximum Frame Spacing (mm)	Max Scew Spacing with Steel Framing (mm)	Max Nail Spacing with Timber Framing (mm)	Maximum Frame Spacing (mm)	Max Scew Spacing with Steel Framing (mm)	Max Nail Spacing with Timber Framing (mm)
240	600	150	125	400	150	125
250 - 260	600	125	100	400	125	125
270	600	100	100	400	125	100
280 - 290	600	100	75	350	125	100
320	600	75	75	350	100	75

EXPOSURE C: UP TO 24 METERS EAVES HEIGHT							
WIND DESIGN		GENERAL AREAS OF BUILDING (i.e. no edge turbulence effects)			WITHIN 1200mm OF BUILDING EDGES (measured from building edge)		
Wind Speed Contour (km/h)	Height of Eaves Level above the Ground (m)	Maximum Frame Spacing (mm)	Max Scew Spacing with Steel Framing (mm)	Max Nail Spacing with Timber Framing (mm)	Maximum Frame Spacing (mm)	Max Scew Spacing with Steel Framing (mm)	Max Nail Spacing with Timber Framing (mm)
240	up to 24	400	125	100	350	100	75
	up to 18	400	100	100	350	75	75
250 - 260	above 18 to 24	350	125	100	300	100	75
	up to 9	400	100	100	300	100	100
270 - 280	above 9 to 24	350	100	100	300	75	75
	up to 24	300	100	100	275	75	75
290 - 300	up to 24	300	100	100	275	75	75
310 - 320	up to 24	300	100	75	250	75	75

NOTES

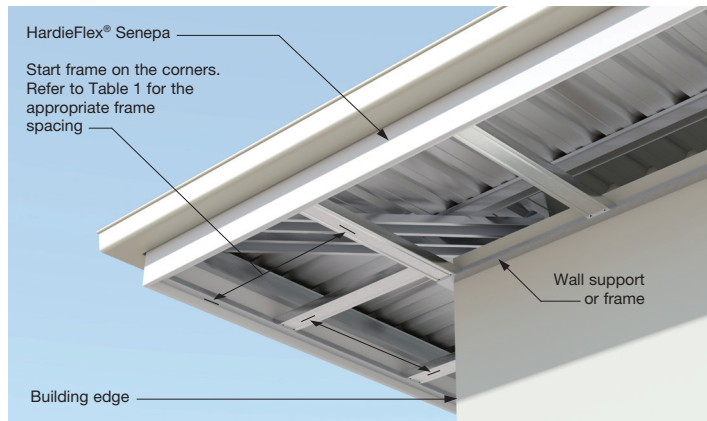
EXPOSURE B: Urban & Suburban areas, wooded areas, or other terrain with numerous closely spaced obstructions having the size of single-family dwellings or larger.

EXPOSURE C: (Open terrain with scattered obstructions having heights generally less than 9m, including flat open country, grasslands and all water surfaces in regions with records of extreme typhoons).

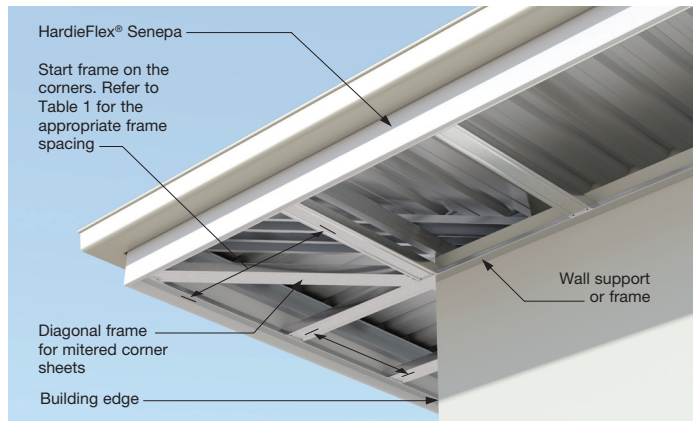
Design Wind pressure were based according to the National Structural Code of the Philippines 7th Edition NSCP C101-15.

INSTALLATION

Framing



Framing for non- mitered corners.



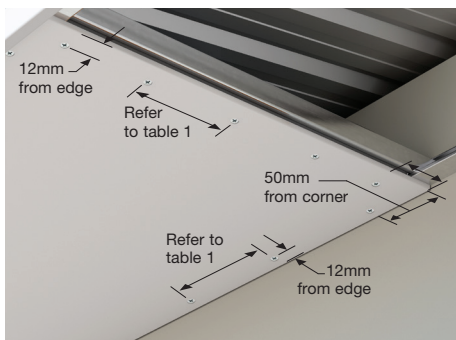
Framing for mitered corners.

Sheet and joint fixing for non-mitered corners with seamless finish

(Seamless finish not applicable for Wood Grain sheets)



Step 1. Install corner piece using appropriate fastener.



Step 2. Follow the proper fastening guides when fastening the sheets.



Step 3. Butter the edge of the 1st sheet with a thin layer of the epoxy. **Take note** to mix only a small amount of Epoxy to avoid wastage due to premature hardening.



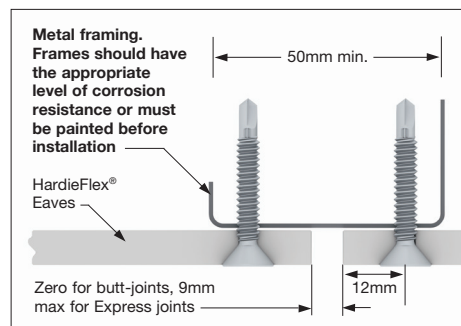
Step 4. Fix the next sheet. Follow the same fastener recommendations as Step 2.



Step 5. Scrape free the excess epoxy to avoid bulge spots on the joint.

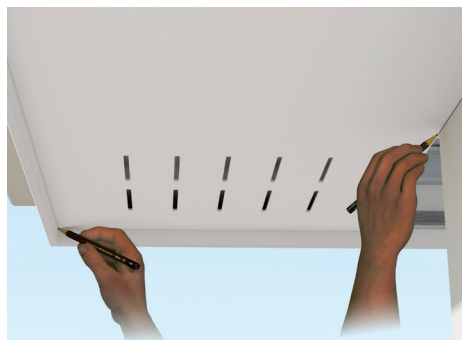
For Butt-joints or Express joints:

(Recommended for Wood Grain sheets)

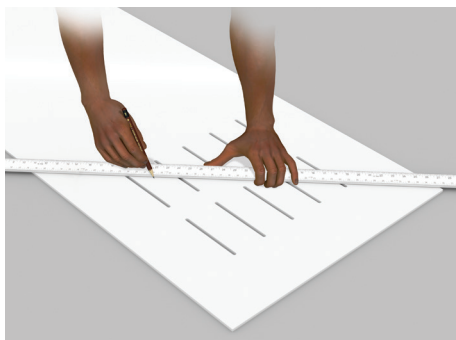


Sheet and joint fixing for mitered corners with seamless finish

(Seamless finish not applicable for Wood Grain sheets)



Step 1. Fit the slotted corner piece and then mark both ends where the mitered cut will be made.



Step 2. Using a straight edge, clearly mark the line of the mitre cut.



Step 3. Cut out the excess piece and clean edges with sandpaper.



Step 4. Fit the mitered sheet and once certain of the fit, fix according to design table and sheet edge fastening recommendations.



Step 5. Repeat the same procedure as before for the other side of the mitre cut. **DO NOT FIX** immediately the 2nd mitered sheet.

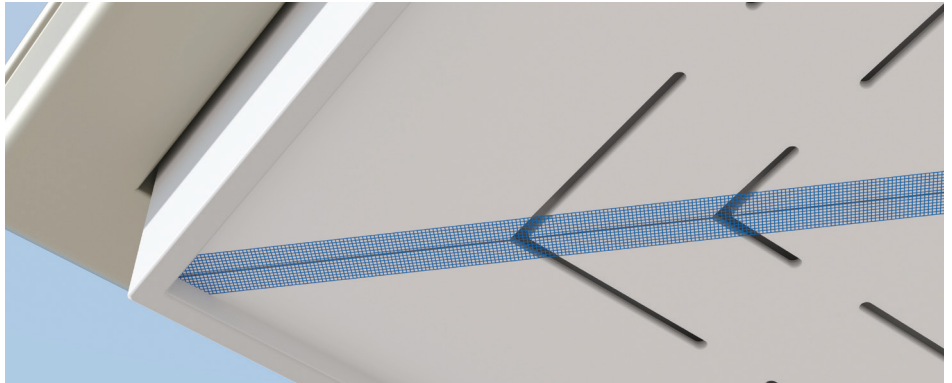


Step 6. Butter the edge of the 1st sheet with a thin layer of the epoxy. **Take note** to mix only a small amount of Epoxy to avoid wastage due to premature hardening.

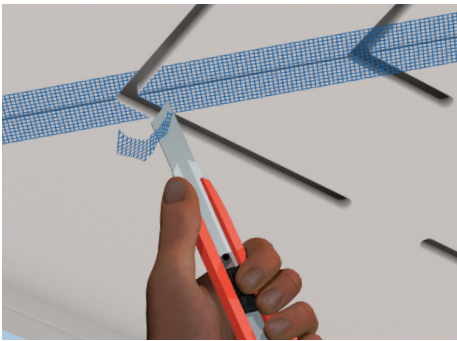


Step 7. Fix the 2nd mitered sheet according to design table and sheet edge fastening recommendations. Then scrape off excess epoxy.

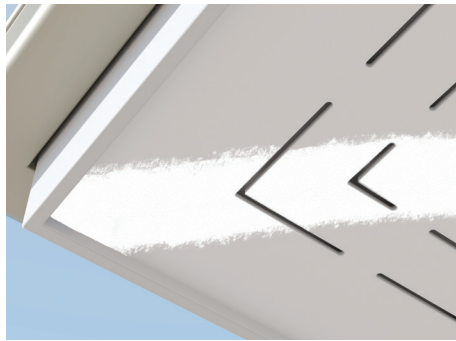
Finishing of sheet joints for seamless finish (Seamless finish not applicable for Wood Grain sheets)



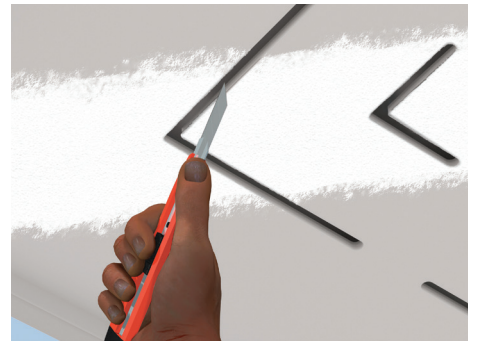
Step 1. Place self-adhering mesh tape along the joint.



Step 2. Using a sharp knife, carefully cut out the portions where the slots are located.



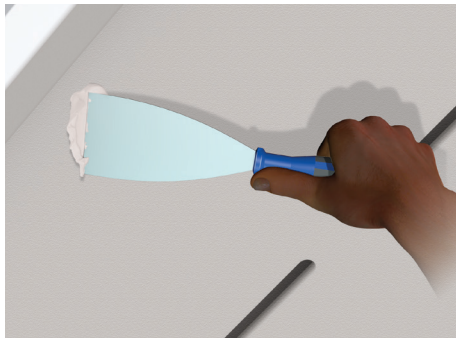
Step 3. Apply a coat of HardiePutty™ with a minimum coat spread of 150mm wide.



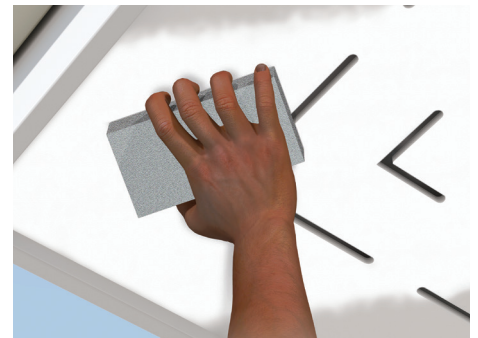
Step 4. Clean excess spread of HardiePutty™ on the slots. Let dry.



Step 5. Apply succeeding coats of HardiePutty™ until mesh tape is fully covered. Carefully feather out the edges with a minimum spread coat of 250mm wide. Clean excess HardiePutty™ before applying.



Step 6. Cover the fastener heads with HardiePutty™.



Step 7. After fully dried and cured, sand with a 200 grit sandpaper to smoothen edges and flatten tool marks.

For Jointing of Plain sheets

Similarly follow Steps 1, Step 3, Step 5, Step 6 and Step 7.

MAINTENANCE

Cleaning and maintenance of the finished surface, joints, junctions, penetrations etc must be carried out at regular intervals.

PRODUCT INFORMATION

General

HardieFlex® Eaves sheets are cellulose fiber reinforced cement building products. The basic composition is Portland cement, ground sand, cellulose fiber and water.

HardieFlex® Eaves is manufactured to ISO 8336 'Fiber Cement Flat Sheets. HardieFlex® Eaves are classified as Type B, Category 2 in accordance with ISO 8336. HardieFlex® Eaves does not contain any asbestos (chrysotile) fibers.

For Material Safety Data Sheets (MSDS) visit www.jameshardie.com.ph or Ask James Hardie™ at +632-895-5427 or 1800-1888-5427.

Resistance to moisture

HardieFlex® Eaves sheets have demonstrated resistance to permanent moisture induced deterioration (rotting) by passing the following tests in accordance with AS/NZS 2908.2:

- Water permeability (Clause 8.2.2)
- Heat Rain (Clause 6.5)
- Warm water (Clause 8.2.4)
- Soak dry (Clause 8.2.5)

Resistance to fire

HardieFlex® Eaves sheets have been tested to AS/ISO 9239, and exceed the requirements stipulated in the Building Code of Australia – Specification C1.10a Fire Hazard Properties – Floors, Walls & Ceilings. All James Hardie products have a critical radiant flux value greater than the minimum requirement of 4.5kW/m² (highest value in accordance with Table 1), and a smoke development rate well below the maximum allowable smoke development rate of 750 percentage-minutes.

Resistance to termite attack

Based on testing completed by CSIRO Division of Forest Products and Ensis Australia, James Hardie building products have demonstrated resistance to termite attack.

HARDIEFLEX® EAVES SHEETS

10-YEAR LIMITED WARRANTY

James Hardie Philippines Inc. ("James Hardie") warrants to the first user of its HardieFlex® Eaves sheet (the "Product"), for a period of 10 years from the date of purchase, that: the Product will be free from defects due to defective factory workmanship or materials; and, when properly installed and maintained in accordance with James Hardie's current published technical literature, will be resistant to damage from cracking, moisture, rotting, fire and termites.

CONDITIONS OF WARRANTY

This warranty is subject to the following conditions:

- The claimant must provide proof of purchase and must make a claim in writing: (i) prior to installation (if the defect was reasonably apparent prior to installation); or (ii) within 30 days after the defect would have become reasonably apparent (if the defect was not reasonably apparent prior to installation).
- The Product must be stored and installed in accordance with the relevant James Hardie technical literature current at the time of installation and in accordance with good building practice. The project must be designed and constructed in strict compliance with all relevant provisions of the current National Building Code of the Philippines, regulations and standards.
- The Product must be maintained in accordance with the relevant James Hardie technical literature, and no liability or responsibility whatsoever will be accepted in relation to any Product which has not been properly maintained.
- James Hardie will not be liable for any claims, damages or defects arising from, or in any way attributable to: poor workmanship; incorrect design or detailing of the structure; settlement or structural movement and/or movement in materials to which the Product is attached; use of the Product in unsuitable applications; acts of God including earthquakes, typhoons, floods or other severe weather conditions or unusual climatic conditions; efflorescence or performance of paint or coatings, jointing compounds, fasteners and other accessories applied to the Product; or, growth of mold, mildew, fungi, bacteria, or any organism on or in any Product.
- James Hardie will not be liable for any other claims, damages or losses (whether direct or indirect) including property damage, personal injury, consequential loss, economic loss or loss of profits arising in contract or negligence or howsoever arising.
- This warranty is not transferable and cannot be relied upon by any other person.

WARRANTY CLAIMS

James Hardie will use its reasonable endeavors to satisfy its obligations under this warranty within 60 days after a claim is made. If James Hardie is reasonably satisfied that a claim may be made under this warranty, it will either (at its option) supply replacement Products, rectify the Product, or pay for the cost of replacement products or rectification of the affected Product. If meeting a claim under this warranty involves re-coating of the Product, there may be slight color differences between the original and re-coated Product due to the effects of weathering and variations in materials over time. After the 1st year through to the 10th year, James Hardie may reduce any payment it elects to make for defective Products by 10% of the purchase price of the defective Product for each year since its purchase.

Any refund or material replacement or compensation provided by James Hardie pursuant to this warranty will constitute a settlement and release of all claims made by the claimant for damages or other relief. This will be the sole, exclusive remedy of the claimant, unless the claimant has rights at law which cannot be excluded or modified, in which case those rights will apply to the claimant.

DISCLAIMER

The recommendations in James Hardie's technical literature are based on good building practice but are not an exhaustive statement of all relevant information. As the successful performance of the relevant system depends on numerous factors outside the control of James Hardie (e.g. quality of workmanship and design), James Hardie shall not be liable for the recommendations in that literature and the performance of the relevant system, including its suitability for any purpose or ability to satisfy the relevant provisions of the National Building Code of the Philippines, regulations and standards.

The statements in this warranty constitute the only warranty extended by James Hardie for the Products. James Hardie disclaims all other warranties, expressed or implied, including any implied warranties of merchantability or fitness for a particular purpose, except where the product purchase is subject to the Consumer Act of the Philippines, in which instance the duration of any applicable implied warranty is limited to 10 years or the period provided for by law, whichever is shorter. Nothing in this warranty is to be construed as excluding or modifying any rights of the claimant which cannot be excluded or modified at law.

WE VALUE YOUR FEEDBACK

Please send any suggestions, including your name, contact details and relevant sketches to:

Ask James Hardie™

0918-8-HARDIE
(632) 895-5427

Toll-free numbers:

#5454 (via Smart/Sun mobile phone)
1-800-1-888-5427 (via PLDT landline)

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