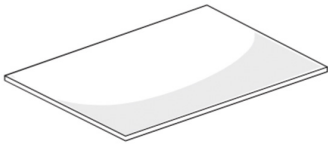


Installation Guide on Steel Framing Application

PHILIPPINES
FEBRUARY 2021

IMPORTANT NOTES




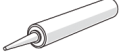

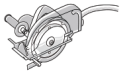



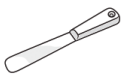
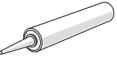

- HardieFlex[®] Flooring is suitable for tiled, laminates, vinyl, and carpeted **internal residential flooring** applications to steel floor joist. The maximum loading capacities are outlined in the loading section of this guide.
- HardieFlex[®] Flooring is not suitable for external applications.
- Failure to install, finish or maintain this product in accordance with applicable building codes, regulations, standards, and James Hardie's written installation guide may lead to personal injury, affect system performance, violate local building codes, and void James Hardie's product warranty.
- All warranties, conditions, liabilities (direct, indirect, or consequential) and obligations whether arising in contract, 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 guide, see the section at the end of this guide.
- For wet area construction, this guide must be read in conjunction with the HardieFlex[®] PRO Installation Instructions which provides wet area waterproofing requirements and details.
- The installer must ensure that the product meets aesthetic and product size specifications before installation. James Hardie will not be responsible for rectifying aesthetic surface variations following installation.
- Make sure your information is up to date. When specifying or installing James Hardie products, ensure that you have the current guide. If in doubt, or you need more information, visit www.jameshardie.com.ph or email us at phtechgroup@jameshardie.com.ph

HardieFlex [®] Flooring					
PRODUCT		DESCRIPTION			
		HardieFlex [®] Flooring is a substrate sealed on 6 sides for internal residential flooring applications. Approximate mass 22.4kg / m ²			
		THICKNESS (MM)	LENGTH (MM)	WIDTH (MM)	PRODUCT CODE
		16	2400	600	404658
	16	2400	1200	404673	

NOTE

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

ACCESSORIES / TOOLS

COMPONENTS SUPPLIED BY JAMES HARDIE			
TOOLS	DESCRIPTION	ACCESSORIES	DESCRIPTION
	HardieFlex[®] Saw Blade A 185mm diameter poly-diamond blade for fast and clean cutting of thick HardieFlex [®] fiber cement boards. Part Code: 300660		HardieDrive[®] Screws 38mm long wing-tipped A wing-tipped, self-drilling screw for fixing HardieFlex [®] Flooring board to light gauge steel frames (1.2-1.6mm BMT). Part Code: HardieDrive [®] 38mm by 70s: 305765 HardieDrive [®] 38mm by 1000s: 305766
COMPONENTS NOT SUPPLIED BY JAMES HARDIE			
James Hardie recommends the following products for use in conjunction with HardieFlex [®] Flooring. 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.			
TOOLS	DESCRIPTION	TOOLS	DESCRIPTION
	Level/Straight edge Used to check the straightness of underlying joints or frames.		Construction Adhesive Suitable construction adhesive for gluing boards to steel floor frame.
	Cordless Drill Recommended tool for screw fixing the boards to steel framing.		Dust-reducing Saw Dust reducing saw with a HardieFlex[®] Saw Blade . Used in conjunction with the Vacuum Extraction with HEPA filter .
	Wire Brush For cleaning board edges.		Vacuum Extraction with HEPA filter Used with HEPA filter and paper bag in conjunction with Dust-reducing Saw and HardieFlex [®] Saw Blade for reduced dust exposure.
	Pioneer Pro All Purpose Epoxy or approved equivalent Used to join HardieFlex [®] Flooring boards together.		Spatula For spreading epoxy to board joints and fasteners.
	Polyurethane sealant Paintable, exterior grade polyurethane joint sealant for sealing around the floor perimeter and control joints.		Backing Rod Used to create control joints in floors. 10mm in diameter.

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 HardieFlex[®] 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 guide and Material Safety Data Sheets available at www.jameshardie.com.ph.

FAILURE TO ADHERE TO OUR WARNINGS, MATERIAL SAFETY DATA SHEETS, AND INSTALLATION GUIDE 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 HardieFlex [®] 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 HardieFlex [®] Saw Blade logo. 3. NEVER dry sweep - Use wet suppression or HEPA vacuum. 4. NEVER use grinders. 5. ALWAYS follow tool manufacturers' safety recommendations.
COMPONENTS NOT SUPPLIED BY JAMES HARDIE James Hardie recommends the following products for use in conjunction with HardieFlex [®] Flooring. 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.

STORAGE AND HANDLING

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

SCOPE AND OVERVIEW

This installation guide covers the use of HardieFlex® Flooring as a substrate in an internal residential application over light gauge steel floor joist. The boards in all applications are installed across light gauge steel floor framing members.

Control joints are required in the flooring substrate in tile finished applications.

DESIGN

General

All design and construction must comply with the appropriate requirements of the latest 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.

Loading

HardieFlex® Flooring meets the requirements in reference to the National Structural Code of the Philippines (NSCP) for Internal residential applications, Table 205-1 which specifies a uniformly distributed load of 1.9 Kpa.

HardieFlex® Flooring meets the requirements referenced by the Australian loading code, AS/NZS 1170.1, which is a point load of 1.8 kN.

FRAMING

General

HardieFlex® Flooring is to be fixed to cold-formed light gauge steel joists installed at 300mm max. centers.

Steel Framing

Framing members must be in the range 1.2mm to 1.6mm BMT (base metal thickness). Floor joists must be at least 50mm wide to enable adequate jointing of boards. The steel framing must have the appropriate level of durability required to prevent corrosion. Steel joists and bridgings should conform to the Standards of ASTM A-36 cold-formed light gauge steel.

Tolerances

In order to achieve an acceptable finish, it is imperative that framing is straight and true. Framing tolerances must comply with the relevant codes and the manufacturer's specifications.

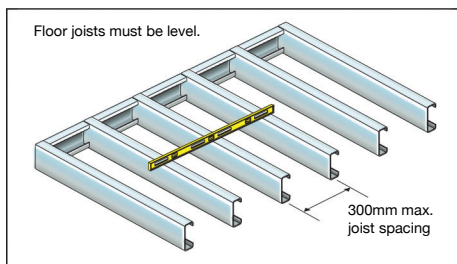


FIGURE 1 FRAME PREPARATION

PANEL LAYOUT

HardieFlex® Flooring is installed across the floor joists in a staggered pattern with the short board edges fully supported on floor joists.

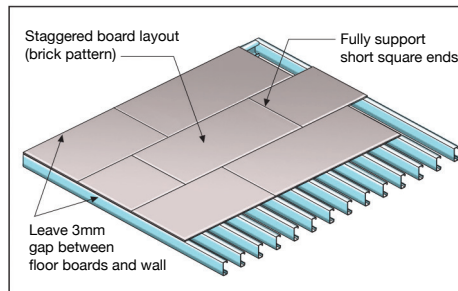


FIGURE 2 BOARD LAYOUT

CONTROL JOINTS

Tiled dry and wet areas only

Control joints in the floor boards and tiles are required in dry and wet areas where floor dimensions exceed 4.80m in one or both directions and where existing structural joints are located. Position joints symmetrically about the center of the floor as shown in Figure 3. Additional control joints in the tiles may be required, refer to the current tile code for more information.

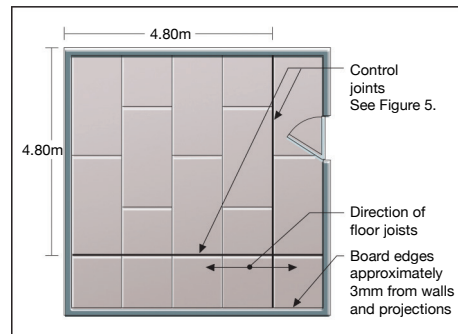


FIGURE 3 CONTROL JOINT LAYOUT

No control joints are required in the flooring boards when finishing with vinyl and carpet unless:

- there is an existing structural joint
- the room dimension exceeds 7 meters in both directions
- specified by relevant code or regulation.

Movement joints must also be provided where the HardieFlex® Flooring adjoins another flooring substrate such as timber flooring or concrete slab.

Also provide control joints where there are changes of direction, such as an L-shaped room, and at doorways where the tiled surface is carried through to the next room as shown in Figure 4.

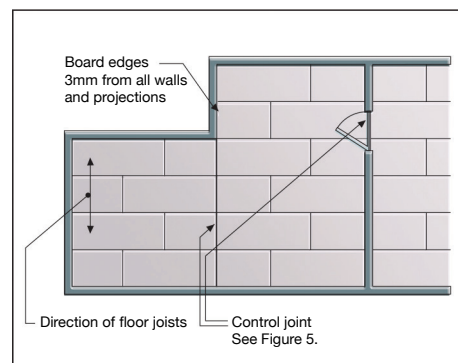


FIGURE 4 L-SHAPED ROOM

Leave a 5mm gap between the HardieFlex® Flooring boards and tiles at control joints. Place a 10mm diameter polyethylene backing rod in the bottom of the joint between the boards and fill the joint with a suitable flexible sealant. All board edges must be fully supported as per Figure 5.

It is important that the control joints be carried through to the top of the floor surface i.e., they should not be covered by tiles or vinyl.

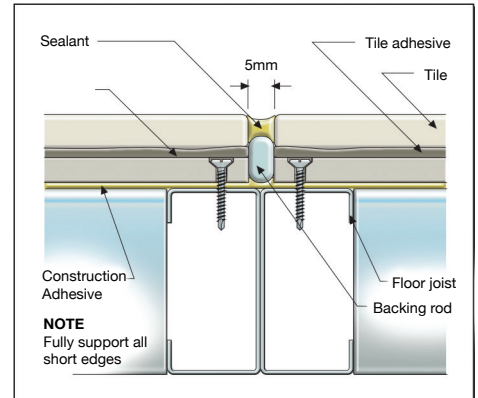


FIGURE 5 CONTROL JOINTS

INSTALLATION STEPS

NOTES

- Ensure that the product is of acceptable quality prior to installation.
- Avoid excessive foot traffic on the floor for at least 24 hours to allow the epoxy and/or sealant to set and dry. Adverse weather conditions may increase this period to 48-72 hours.
- Protect the surface of the boards from damage and from becoming wet at all times.

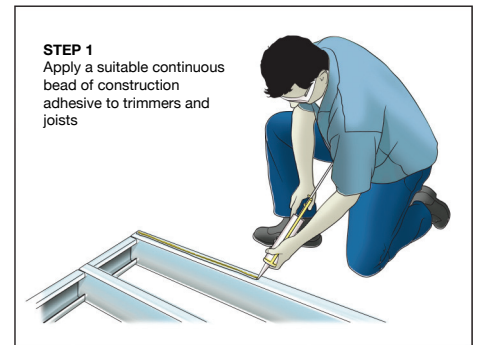


FIGURE 6 CONSTRUCTION ADHESIVE

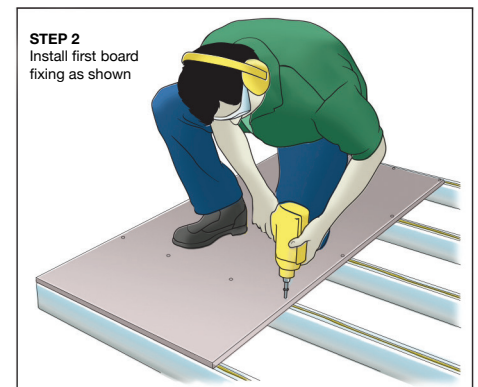


FIGURE 7 FIXING FIRST PANEL

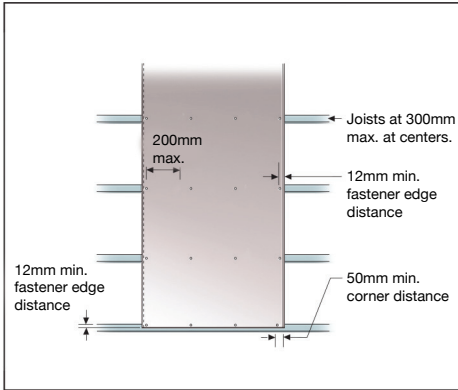


FIGURE 8 FASTENER LAYOUT

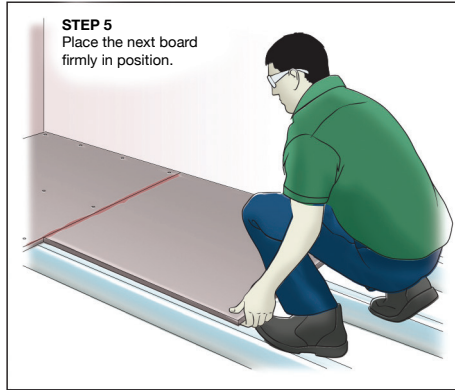


FIGURE 12 POSITION NEXT BOARD



FIGURE 16 CLEAN SURFACE

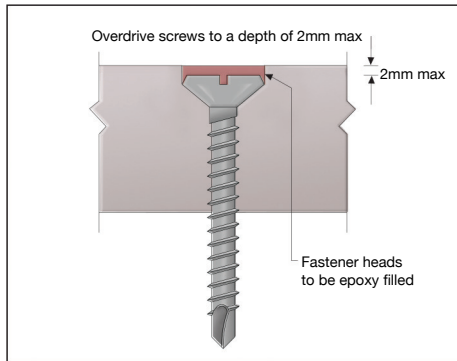


FIGURE 9 BOARD FASTENER

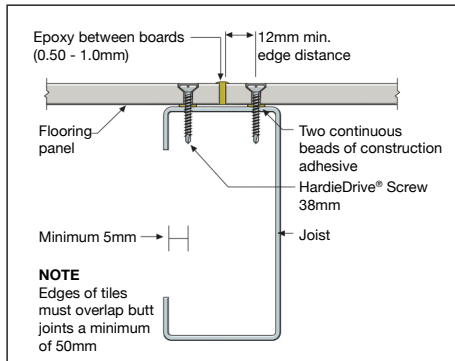


FIGURE 13 SCREW AND BOARD JOINT DETAIL

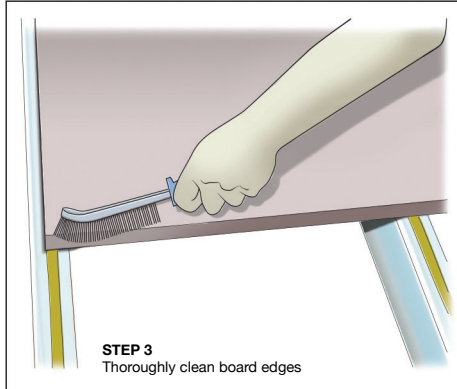


FIGURE 10 CLEAN BOARD EDGES

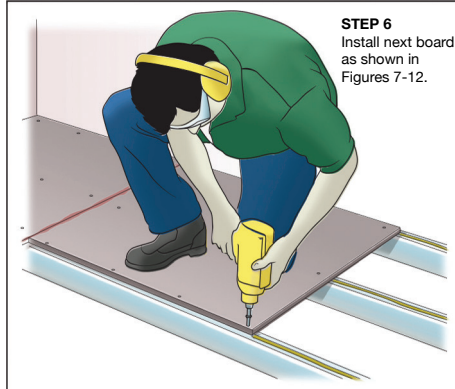


FIGURE 14 FIX NEXT BOARD

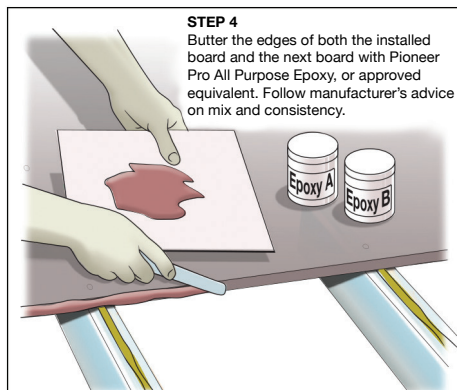


FIGURE 11 APPLYING EPOXY TO BOARD EDGES

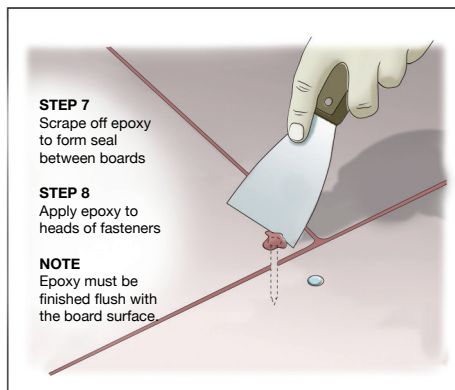


FIGURE 15 REMOVE EXCESS EPOXY AND COVER FASTENER HEADS

FINISHES

Only use warranted third party water-based finishes including primers, waterproofing and adhesives. Refer to the third party manufacturer for more information.

Dry Areas

Vinyl, laminates, carpet and tiles may be laid over HardieFlex® Flooring.

Preparation

Where minor height variations (3mm or less) occur at butt joints, these may be levelled out by filling with a self-leveling compound such as Lanko 173 from Parex Davco or equivalent. Ensure final finish is compatible with all components e.g., vinyl adhesive with levelling compound.

NOTE: Sanding of the HardieFlex® Flooring is not recommended. Ensure boards are fully dry before applying finishes.

Vinyl

NOTE: The boards are supplied fully sealed.

As the boards are sealed, it is recommended that the vinyl adhesive is allowed to become tacky before laying down the vinyl sheets. Refer to a reputable vinyl manufacturer for suitable products and installation guide.

Tiling

Tiles should be applied with a tested and warranted suitable adhesive that conforms to Australian Standard AS 2358 and installed in accordance to AS 3958.1 and to tile and adhesive manufacturer recommendations. Use a flexible tile adhesive recommended for internal wet area applications and compatible with all other materials.

It is recommended that tiles are laid from the control joint out and edges of tiles must overlap butt joints a minimum of 50mm. Ensure the tile adhesive used is suitable and compatible with adjoining surfaces for the intended application.

Refer to the waterproofing and tile manufacturer and relevant tiling codes for maximum tile control joint spacing, product suitability and compatibility including grout, tile adhesive, tile and waterproofing warranty and maintenance requirement.

Internal Wet Areas

For wet area applications, boards, walls, and floor-to-wall junctions must be fully waterproofed using a third party warranted waterproofing system. For more guidance on waterproofing refer to a third party waterproofing company and the HardieFlex® PRO Installation Instructions which provides wet area waterproofing requirements and details. Once HardieFlex® Flooring has been fixed in place, install floor tiles in accordance with the tile manufacturer's specifications within 3 months of installation.

MAINTENANCE

Cleaning and maintenance of the finished surface, joints, junctions, penetrations, etc. must be carried out at regular intervals. Maintain waterproofing to meet the objectives of AS 3740 and as per the requirements of the relevant component manufacturer.

PRODUCT INFORMATION

General

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

HardieFlex® Flooring is manufactured to AS/NZS 2908.2 'Cellulose-Cement Products Part 2: Flat sheets'. HardieFlex® Flooring is classified Type B, Category 2 in accordance with AS/NZS 2908.2.

HardieFlex® Flooring does not contain any asbestos (chrysotile) fibers.

For Material Safety Data Sheets (MSDS) visit www.jameshardie.com.ph or email us at phtechgroup@jameshardie.com.ph

Resistance to moisture damage

HardieFlex® Flooring boards 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) Warm water (Clause 8.2.4)

Heat Rain (Clause 6.5) Soak dry (Clause 8.2.5)

Resistance to fire

HardieFlex® Flooring boards 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 flooring products have critical radiant flux values 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® Flooring

10 YEAR WARRANTY

James Hardie Philippines Inc. ("James Hardie") warrants to the first purchaser of HardieFlex® Flooring ("Product") from James Hardie and the last purchaser of the Product prior to installation that, subject to compliance with the Conditions of Warranty below:

- for a period of 10 years from the date of purchase, the Product will be free from defects due to defective factory workmanship or materials; and
- for a period of 10 years from the date of purchase, the Product will be resistant to damage from cracking, moisture, rotting, fire, and termites to the extent set out in James Hardie's relevant published literature current at the time of installation; and
- for a period of 12 months from the date of purchase that the accessories supplied by James Hardie will be free from defects due to defective factory workmanship or materials.

For the purposes of this warranty, a "defect" in respect of the Product means a non-compliance with AS/NZS 2908.2:2000 Cellulose-cement products – Flat boards.

CONDITIONS OF WARRANTY

This warranty is strictly subject to the following conditions:

- a. James Hardie will not be liable for breach of this warranty unless the claimant provides proof of purchase of the Product and makes a written claim to James Hardie at the address set out below, either within 30 days after the defect would have become reasonably apparent or, if the defect was reasonably apparent prior to installation, then the claim must be made prior to installation.
- b. the Product is subject to natural variation in finish as part of the manufacturing process. The builder/installer must ensure the Product meets aesthetic requirements before installation. Subject to the terms of this warranty, after installation of the Product, James Hardie is not liable for claims arising from aesthetic surface variations if such variations were, or would upon reasonable inspection have been, apparent prior to installation;
- c. this warranty cannot be relied upon by any other person and is not transferable.
- d. the Product must be installed and maintained strictly in accordance with the relevant James Hardie literature current at the time of installation and must be installed in conjunction with the components or products specified in the literature. To obtain copies of such literature visit www.jameshardie.com.ph or email us at phtechgroup@jameshardie.com.ph. Further, all other products, including coating and jointing systems, applied to or used in conjunction with the Product must be applied or installed and maintained strictly in accordance with the relevant manufacturer's instructions and good trade practice;

- e. 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; if the claimant chooses to rely upon this warranty then the claimant's sole remedy under this warranty for breach of this warranty is (at James Hardie's option) that James Hardie will either supply replacement Product, rectify the affected Product or pay for the cost of the replacement or rectification of the affected Product;
- f. James Hardie will not be liable for any losses or damages (whether direct or indirect) including property damage or personal injury, consequential loss, economic loss or loss of profits, arising in contract or negligence or howsoever arising. Without limiting the foregoing, James Hardie will not be liable for any claims, damages or defects arising from or in any way attributable to poor workmanship, poor design or detailing, settlement or structural movement and/or movement of materials to which the Product is attached, incorrect design of the structure, acts of God including but not limited to earthquakes, cyclones, floods or other severe weather conditions or unusual climatic conditions, efflorescence or performance of paint/coatings applied to the Product, normal wear and tear, growth of mold, mildew, fungi, bacteria, or any organism on any Product surface or Product (whether on the exposed or unexposed surfaces);
- g. all warranties, conditions, liabilities and obligations other than those specified in this warranty are excluded to the fullest extent allowed by law;
- h. if meeting a claim under this warranty involves re-coating of Product, there may be slight color differences between the original and replacement Product due to the effects of weathering and variations in materials over time and James Hardie is not liable for any such color differences.

DISCLAIMER

The recommendations in James Hardie's literature are based on good building practice but are not an exhaustive statement of all relevant information and are subject to conditions set by James Hardie's published literature current at the time of installation. Further, 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.

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WE ARE HERE TO HELP

If you have any questions or inquiries about HardieFlex® products, send us an email or message. Please include your name and contact details.



Ask
JamesHardie™

Email: phtechgroup@jameshardie.com.ph
www.jameshardie.com.ph



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