



# Installation Guide

PART 1 OF 2

HardieDeck™

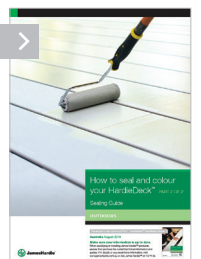
**OUTDOORS**

Remember to also download Part 2, HardieDeck™ Sealing Guide >

**Australia August 2019**

**Make sure your information is up to date.**

When specifying or installing James Hardie™ products, ensure that you have the current technical information and guides. If in doubt, or you need more information, visit [www.jameshardie.com.au](http://www.jameshardie.com.au) or Ask James Hardie™ on 13 11 03.



# 1. Before Installation

All design and construction must comply with the appropriate requirements of the current applicable building codes, James Hardie's instructions and specifications and any other applicable regulations and standards current at the time of construction. Failure to do so may lead to personal injury, affect system performance, violate local building codes and void James Hardie's product warranty. This guide contains minimum requirements, local or regulations requirements may be greater, please ensure to check before installation.

The installer must ensure the product meets the aesthetic requirements before installation. James Hardie will not be responsible for rectifying aesthetic surface variations following installation. The responsible party for the project must ensure that all details in this specification are appropriate for the intended application.

## 1.1 Substructure Considerations

CRITERIA	MINIMUM REQUIREMENT
Material	Termite resistant timber (AS 1684) or Steel with BMT between 0.6-1.9mm (NASH)
Dimensions	Joist width 45mm min. , tolerance of 3-4mm over 3m.
Joist Spacing & Loading*	Residential Applications <b>Max. Spacing:</b> 450mm (standard), 300mm (diagonal) <b>Max load:</b> 1.8 kN (point), 2kPa (distributed)
(See Figure 1 for layouts and refer to page 6 for notes)	Commercial Applications (standard layout only) <b>1. Spacing at 450mm max.</b> <b>Max. Load:</b> 2.9 kN (point), 10 kPa (distributed) <b>2. Spacing at 300mm max.</b> <b>Max. Load:</b> 3.78 kN (point), 10 kPa (distributed)
Additional Supports	All short edges of the boards must be fully supported. Any changes in direction will require additional support e.g. corners, use of break-a-boards, etc.
Durability	All framing elements including fasteners must have the appropriate level of durability for the application including but not limited to termite resistance, corrosion and weather exposure. Confirm suitability with manufacturer.
Clearance and Ventilation in subfloor	A minimum 150mm between ground surface and the underside of the lowest horizontal framing member. A minimum of 50mm unobstructed clearance from the landscape to the bottom end of the fascia or deck enclosure to allow cross flow ventilation in the sub-floor. Refer to Figure 2.
Bushfire Prone Areas Requirements	- BAL-29: Timber or steel frame for enclosed decks and bushfire resisting timber or steel frame for unenclosed decks. - BAL-40: Timber or steel frame for enclosed decks and only steel frame for unenclosed decks. - BAL-FZ: Steel frame only, HardieDeck™ Snap-in Top Strip FZ must be used and all sides must be open.

## 1.2 Other Design Considerations

CRITERIA	MINIMUM REQUIREMENT
Corrosive Environments	<b>HardieDeck™ is not suitable for use in Alpine areas (Climate zone 8) or in areas within 50m of breaking surf</b>  For swimming pools, coastal areas (within 1 km of shoreline) and others, particular attention must be paid to sealers and sub-floor ventilation; this includes but it is not limited to: 10mm Control joint around pool perimeter, sealing the deck within <b>7 days</b> of installation and adding anti-slip additives to the sealer specified.
Slip Resistance	The slip resistance is dependant on the sealer, for more information, refer to the FAQ in <a href="http://hardiedeck.com.au">hardiedeck.com.au</a>
Balustrades	The balustrade upright supports must be fixed to the structural frame and not to the HardieDeck™ system. Allow 10mm gap for movement and in bushfire areas ensure that the gap is covered, sealed or backed with a non-combustible material.
Sealing	For recommendations, suitability and application instructions refer to the HardieDeck™ Sealing Guide available at <a href="http://hardiedeck.com.au/download">hardiedeck.com.au/download</a> HardieDeck™ must be sealed within 60 days, and within 7 days if around swimming pools or within 1km of coastal areas.
Fasteners	- For Timber Frames: Fasteners are included with Concealed Fixing System. If face fixing is required, we recommend a Stainless steel 8 gauge type 17 50mm screw. - For Steel Frames: We do not recommend the standard fasteners. As an alternative, we recommend using HardieDrive™ 25mm screws and the HardieDrive™ 41mm long for face fixing if required. For corrosive environments, HardieDrive™ is not suitable, you must use an equivalent class 4 screw or higher.

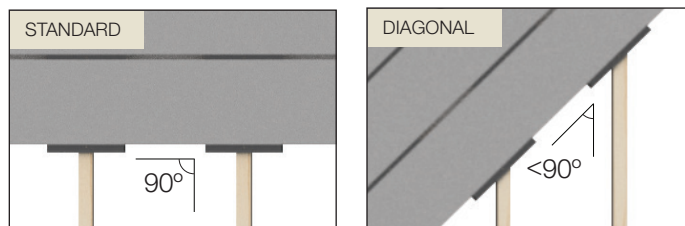


FIGURE 1 LAYOUT OPTIONS

## 1.3 Safe Working Practices

### 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) minimise dust when cutting by using either 'score and snap' knife, fibre cement shears or, where not feasible, use a HardieBlade™ Saw Blade (or equivalent) and dust-reducing circular saw attached to an appropriate, well maintained, filtered vacuum; (3) warn others in the immediate area to avoid breathing dust; (4) wear a properly-fitted, approved dust mask or respirator (Min. P2) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use appropriate, well maintained vacuum and filter appropriate for capturing fine (respirable) dust or use wet clean up methods - never dry sweep. For further information, refer to our installation instructions and Safety Data Sheets available at [www.jameshardie.com.au](http://www.jameshardie.com.au) or [www.hardiedeck.com.au](http://www.hardiedeck.com.au). FAILURE TO ADHERE TO OUR WARNINGS, SAFETY DATA SHEETS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

#### JAMES HARDIE RECOMMENDED SAFE WORKING PRACTICES

##### CUTTING (OUTDOORS)

1. Position the cutting station so wind will blow dust away from the user or others in working area.
2. Position the cutting station in a well-ventilated area. Use a dust reducing circular saw equipped with HardieBlade™ Saw Blade or comparable fibre cement blade and well maintained vacuum and filter appropriate for capturing fine (respirable) dust

##### DRILLING / OTHER MACHINING

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

##### APPROPRIATE PRACTICE

1. For maximum protection (lowest respirable dust production), James Hardie recommends always using the best cutting methods.
2. NEVER use a power saw indoors.
3. ALWAYS use a circular saw blade that carries the HardieBlade™ logo or is of at least comparable performance.
4. NEVER dry sweep - Use wet suppression or appropriate vacuum and filter.
5. NEVER use grinders for cutting.
6. ALWAYS follow tool manufacturers' safety recommendations.

##### DUST MASKS AND RESPIRATORS

As a minimum, an AS/NZS1716 P2 respirator must be used when doing any activity that may create dust. For more extensive guidance and options for selecting respirators for workplaces please refer to Australian/New Zealand Standard 1715:2009 "Selection, Use and Maintenance of Respiratory Protective Equipment". P2 respirators should be used in conjunction with the above cutting practices to minimise dust exposure.

For further information, refer to Safety Data Sheet (SDS) available at [www.jameshardie.com.au](http://www.jameshardie.com.au). 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.

## 1.4 Storage and Handling

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



# 2. HardieDeck™ Components

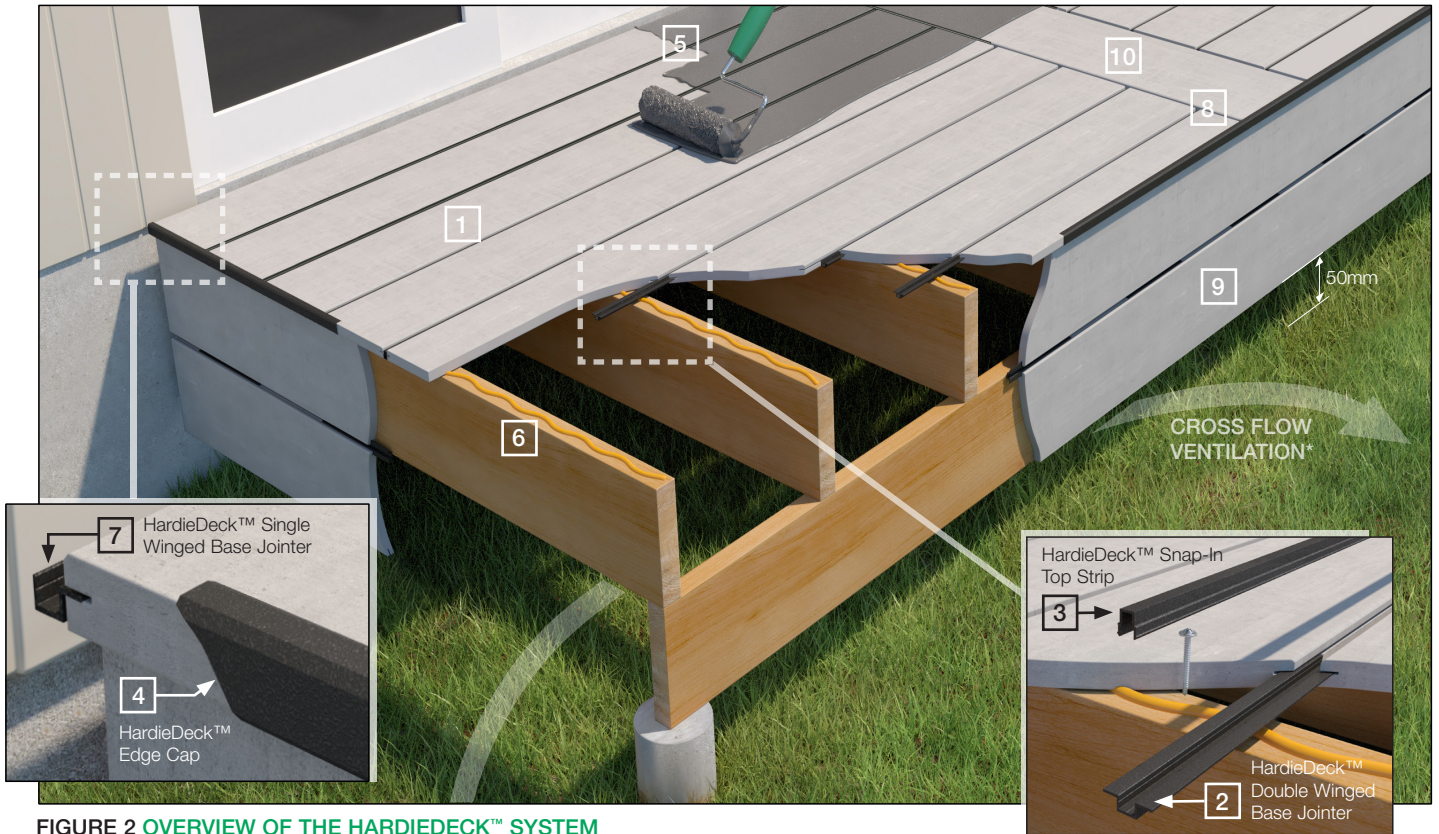


FIGURE 2 OVERVIEW OF THE HARDIEDECK™ SYSTEM

## HardieDeck™ Essential Components

<p><b>1 HardieDeck™ Board</b></p> <p>Pack Size: 50 Units Product Code: 404780 Coverage:† 4.8 boards/m<sup>2</sup></p>	<p><b>2 HardieDeck™ Double Winged Base Joister*</b></p> <p>Pack Size: 10 Pks of 35 (350 Units) Product Code: 306010 Coverage:† 30m<sup>2</sup>/box 3m<sup>2</sup>/pack * Includes fasteners</p>	<p><b>3 HardieDeck™ Snap-In Top Strip Options (either)</b></p> <p>Pack Size: 10 Pks of 5 (50 Units) Product Code: 306012 FZ: 306014 Coverage:† 30m<sup>2</sup>/box 3m<sup>2</sup>/pack</p>	<p><b>4 HardieDeck™ Edge Cap Options (either)</b></p> <p>Pack Size: 10 Units Fascia Product Code: 305844 Slimline Product Code: 305846 Coverage:† Open deck sides</p>	<p><b>5 Sealer</b></p> <p>Not supplied by James Hardie. Refer to the HardieDeck Sealing Guide for more information available at: <a href="http://hardiedeck.com.au">hardiedeck.com.au</a></p>
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## HardieDeck™ Optional Components

<p><b>6 James Hardie™ Joint Sealant</b></p> <p>Pack Size: 20 Per Box Product Code: 305534 300ml Cartridge Product Code: 305672 600ml Sausage Coverage:† 2.67m/100ml (5mm dia bead)</p>	<p><b>7 HardieDeck™ Single Winged Base Joister*</b></p> <p>Pack Size: 10 Pks of 35 (350 Units) Product Code: 306011 Used in the wall abutment edge * Includes fasteners</p>	<p><b>8 HardieDeck™ Wingless Base Joister*</b></p> <p>Pack Size: 10 Pks of 5 (50 Units) Product Code: 306032 Used in changes of board orientation * Includes fasteners</p>	<p><b>9 HardieDeck™ Edging Board</b></p> <p>Pack Size: 50 Units Product Code: 404781 Used as an edging option or as a fascia board</p>	<p><b>10 HardieDeck™ Finishing Board</b></p> <p>Pack Size: 30 Units Product Code: 404782 Used for pattern variation or as stair treads</p>
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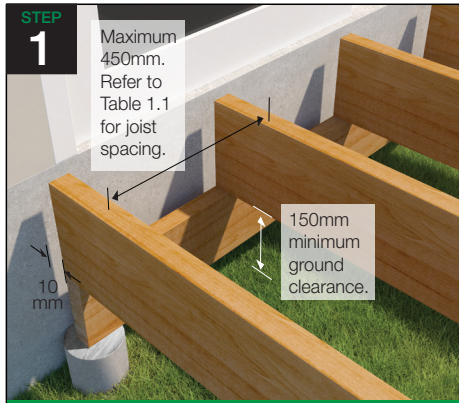
## Tools and PPE

<p><b>HardieBlade™ Saw Blade. 185mm Dia.</b></p> <p>Pack Size: 1 each Product Code: 300660 Poly-diamond blade.</p>	<p><b>Wet Saw or Slide Compound Mitre Saw</b></p> <p>110mm Wet Saw Cutter or Slide Compound Mitre Saw connected to a vacuum extractor with an appropriate dust filter.</p>	<p><b>Jig Saw</b></p> <p>For intricate cuts. For use with Makita B-60 Tungsten Jig Saw blade or similar.</p>	<p><b>Cordless Drill</b></p> <p>Recommended tool for screw fixing the sheets to steel and timber framing.</p>	<p><b>PPE Safety Equipment</b></p> <p>Safety goggles and P2 mask are essential when cutting, drilling or machining.</p>
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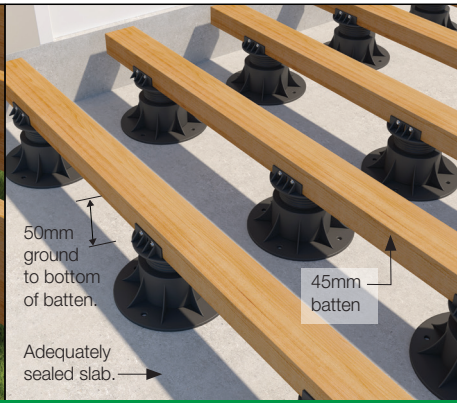
† Coverage based on 450mm joist spacing.



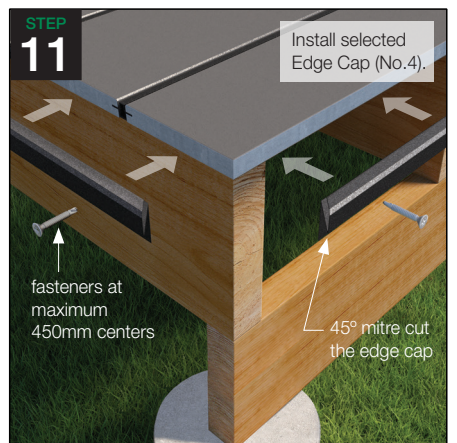
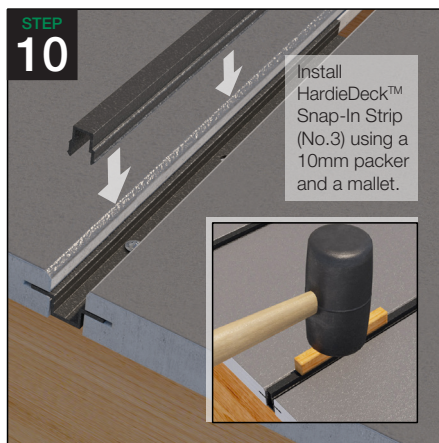
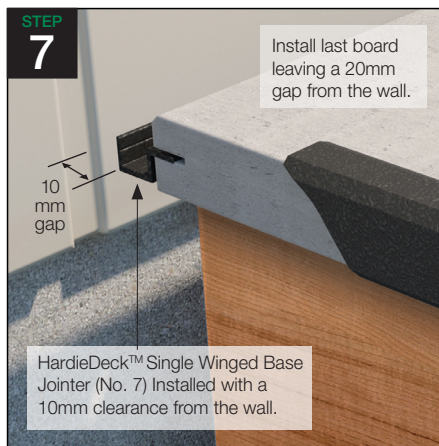
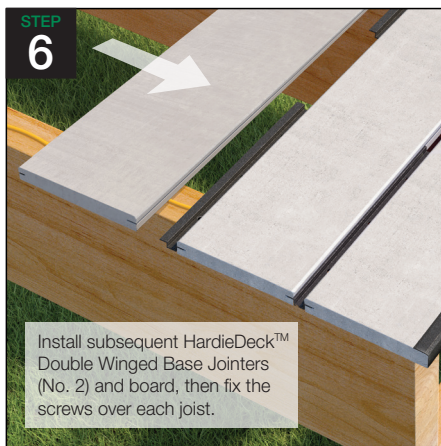
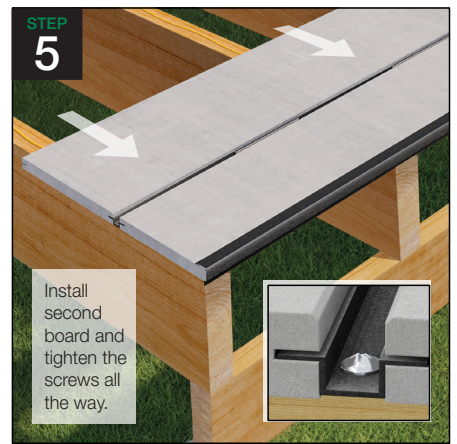
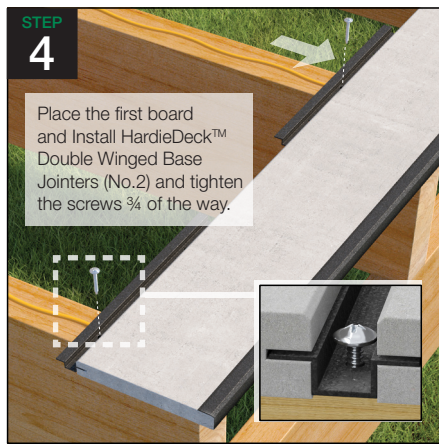
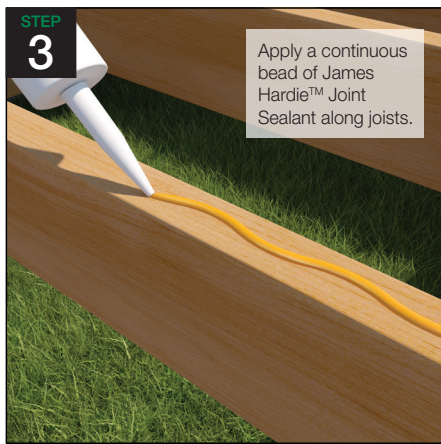
# 3. Installation Steps



**OPTION 1: JOISTS**



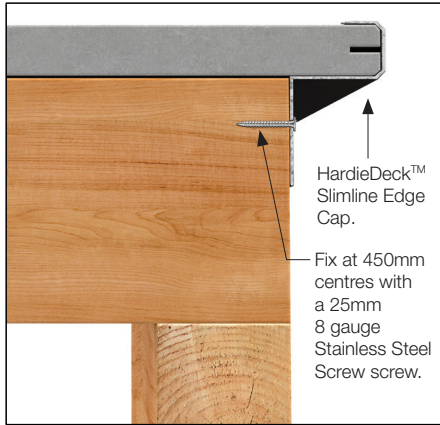
**OPTION 2: SLAB**



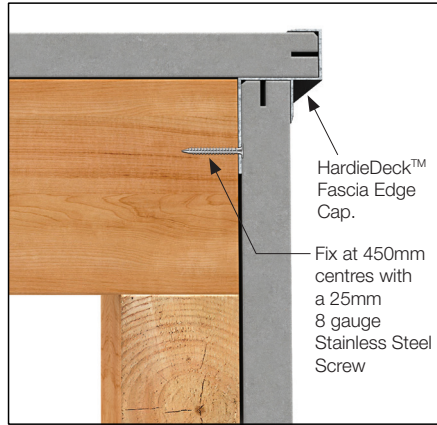


# 4. Design and Detailing

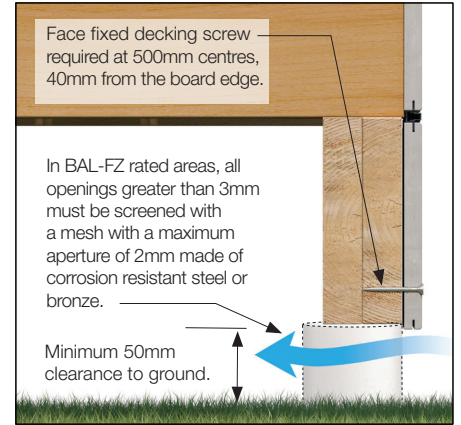
## 4.1 Perimeter and Fascias



**FIGURE 3A OPTION 1: FIRST BOARD INSTALLED WITH SLIMLINE EDGE CAP**

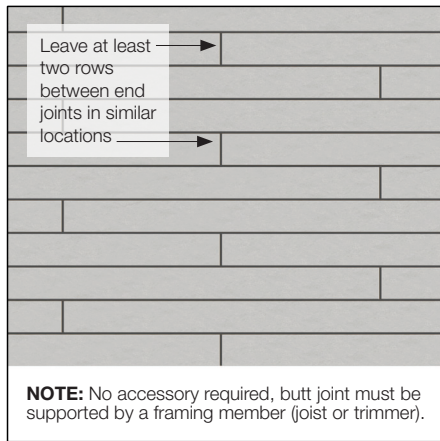


**FIGURE 3B OPTION 2: FASCIA EDGE CAP WITH EDGING BOARD**

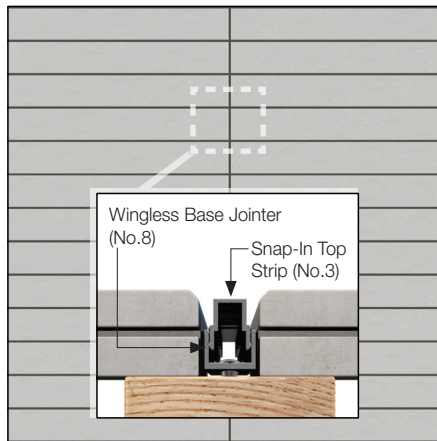


**FIGURE 4 BOTTOM FINISH AND CLEARANCE**

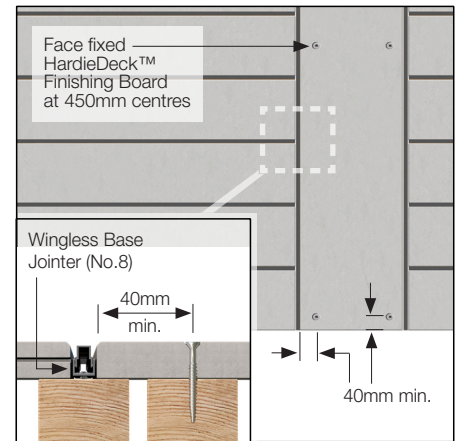
## 4.2 Joints



**FIGURE 5 OPTION 1: CONTINUOUS (STAGGERED) JOINTS**

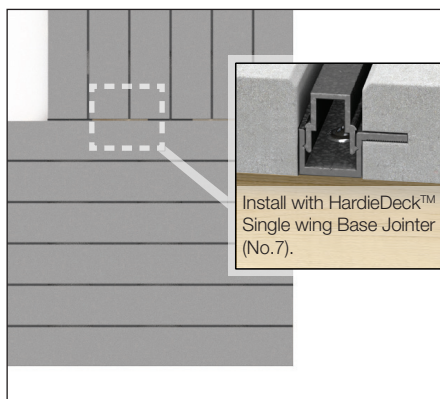


**FIGURE 6 OPTION 2: SQUARE PANELLED JOINTS**

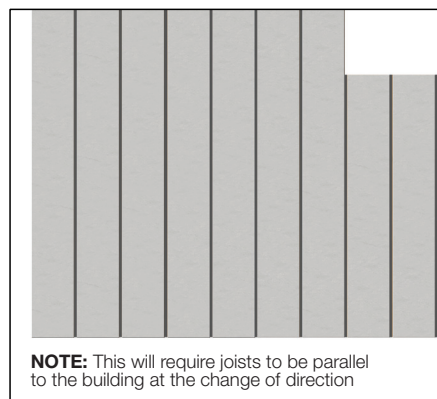


**FIGURE 7 OPTION 3: BREAKER BOARD JOINTS**

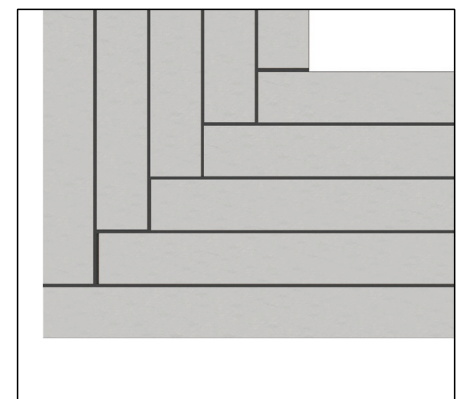
## 4.3 Corners



**FIGURE 8 OPTION 1: SQUARE CORNER JOINT**

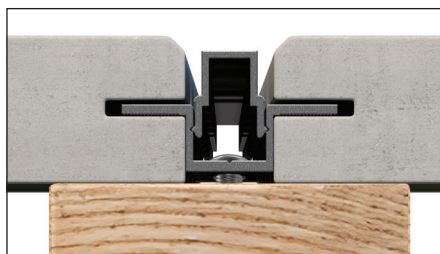


**FIGURE 9 OPTION 2: SQUARE PARALLEL CORNER JOINT**

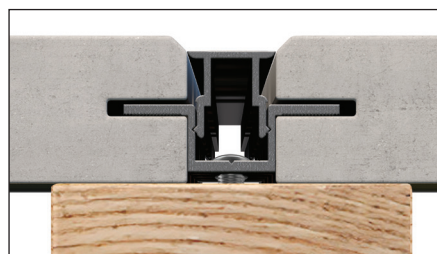


**FIGURE 10 OPTION 3: STAGGERED 45° CORNER JOINT**

## 4.4 Snap-In Top Strips



**FIGURE 11 SNAP-IN TOP STRIP**



**FIGURE 12 SNAP-IN TOP STRIP FZ**



## 5. Product Info

## 6. Warranty

### 4.7 Stairs and Treads

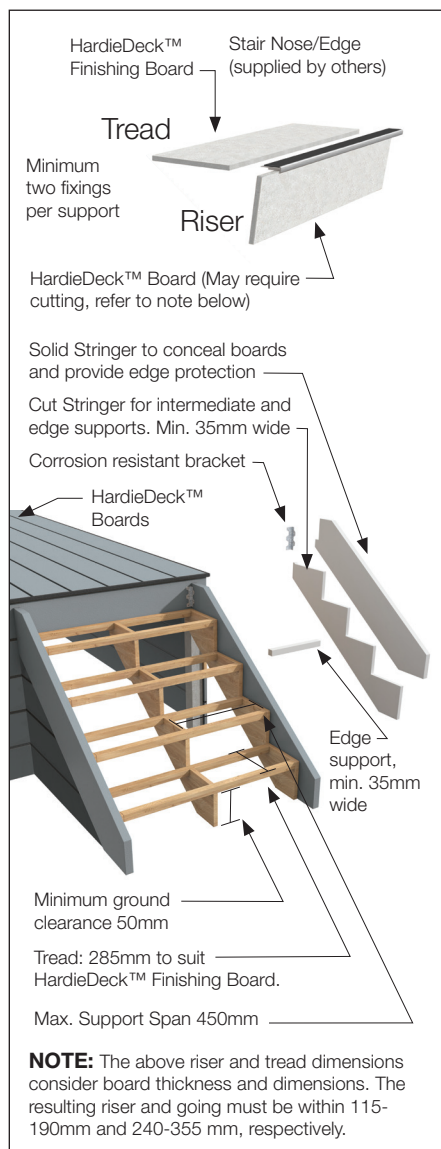


FIGURE 11 DECK STAIR FRAMING

### Material

The basic composition of James Hardie™ building products is Portland cement, ground sand, cellulose fibre, water and proprietary additives.

James Hardie™ building products are manufactured AS/NZS 2908.2 'Cellulose-Cement Products-Flat Sheet'. These are also compliant with equivalent standard ISO 8336 'Fibre-cement flat sheets - Product specification and test methods'. For product classification refer to the relevant Physical Properties Data Sheet.

### Durability

HardieDeck™ boards have demonstrated resistance to permanent moisture induced deterioration (rotting) by passing the following tests in accordance with AS/NZS2908.2:

- 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

The HardieDeck™ system is suitable where non-combustible materials are required in accordance with C1.9 of the National Construction Code.

James Hardie™ building products have been tested by CSIRO in accordance with AS/NZS 3837 and are classified as conforming to Group 1 material (highest and best result possible), with an average specific extinction area far lower than the permissible 250m<sup>2</sup>/kg, as referenced in Specification C1.10a of the National Construction Code (NCC).

### 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.

### Joist Spacing and Loading Notes

In all cases the deflection limit of span/200 under 2.6kN Serviceability Limit State loading has not been exceeded. For residential applications, Table 3.1 of AS 1170.1 specifies a concentrated load of 1.8kN on a 350mm<sup>2</sup> area, which is equivalent to a 21.1mm diameter round or 18.7mm square applicator. For commercial applications, the concentrated loads of 2.7kN and greater are applied over an area of 0.01m<sup>2</sup>, namely a 100mm square applicator. The concentrated load capacity for the 350mm<sup>2</sup> applicator (Residential Loads – Maximum Allowable Concentrated Load) is independent of the joist spacing because the failure mode will be punching shear. Unless noted otherwise, the HardieDeck™ system will provide these load capacities even if the boards become fully saturated.

### Warranty

The HardieDeck™ system supplied by James Hardie is warranted for a period of 10 years.

Please refer to the terms and conditions stated in the warranty document available at [hardiedeck.com.au](http://hardiedeck.com.au).

The decking boards are not covered by the James Hardies product warranty when used without HardieDeck™ Double Winged Base Jointer and HardieDeck™ Snap-In Top Strip when installed horizontally.

### NOTE

Boards are still warranted when installed in a vertical deck fascia application without the fixing system.

This product is not warranted for use outside of its intended application.









**For information and advice  
call 13 11 03 | [hardiedeck.com.au](http://hardiedeck.com.au)**

**Australia** August 2019



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