



# Installation Guide and Technical Specification

RAB™ Board\*

COMMERCIAL

\*Not available in WA.

**Australia** May 2021

**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.

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# 1 Introduction

James Hardie RAB™ Board is a 6mm fibre cement sheet, with factory applied CoreShield™ sealer technology. It is installed beneath claddings or rainscreens as a weather barrier, and delivers superior water resistance, long-term durability and strength. It is suitable all classes and types of buildings including residential, apartments, commercial and public.

The RAB™ Board 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 [JamesHardie.com.au](http://JamesHardie.com.au).

### If you are a specifier...

Or other responsible party for a project, ensure the information in these specifications is appropriate for the application you are planning and that you undertake specific design and detailing for areas which fall outside the scope of these specifications.

### If you are an installer...

Ensure that you follow the design, moisture management and associated details and material selection provided by the designer and the RAB™ Board Installation Guide.

## SCOPE

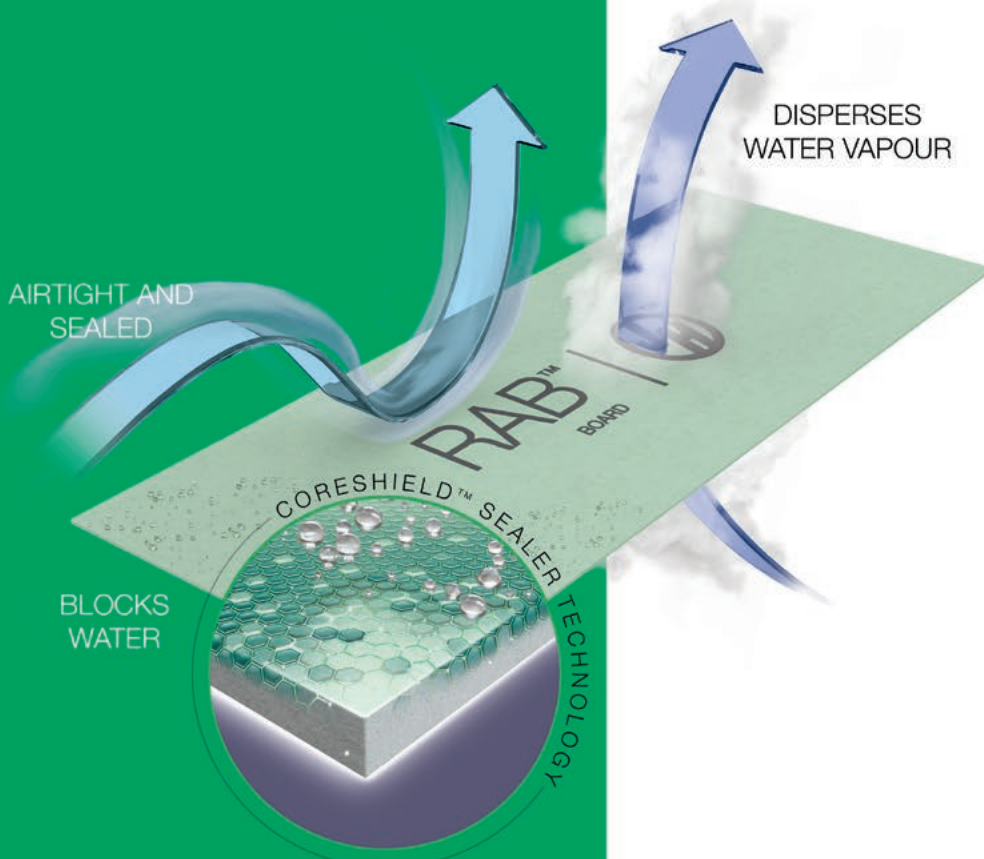
### General

This guide covers the use of RAB™ Board in multi-residential and commercial wall application over a seasoned timber or light-gauge steel frame.

The guide is intended to address the requirements of Class 2 - 9 buildings in accordance with National Construction Code (NCC) Volume One.

## IMPORTANT NOTES

1. Failure to install, finish or maintain this product in accordance with applicable building codes, regulations, standards and James Hardie's written application instructions 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 contract, tort 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, visit [www.jameshardie.com.au](http://www.jameshardie.com.au).



MADE IN AUSTRALIA

# 2 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. **May cause cancer if dust from product is inhaled. Causes damage to lungs and respiratory system through prolonged or repeated inhalation of dust from product.**

Intact fibre cement products are not expected to result in any adverse toxic effects. The hazard associated with fibre cement arises from the respirable crystalline silica present in dust generated by activities such as cutting, rebating, drilling, routing, sawing, crushing, or otherwise abrading fibre cement, and when cleaning up, disposing of or moving dust. When doing any of these activities in a manner that generates dust, follow James Hardie instructions and best practices to reduce or limit the release of dust, warn others in the area and consider rotating personnel across the cutting task to further limit respirable silica exposure. If using a dust mask or respirator, use an AS/NZS1716 P1 filter and refer to Australian/New Zealand Standard 1715:2009 Selection, Use and Maintenance of Respiratory Protective Equipment for more extensive guidance and more options for selecting respirators for workplaces. For further information, refer to our installation instructions and Safety Data Sheets available at [www.jameshardie.com.au](http://www.jameshardie.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 cutting station so wind will blow dust away from the user or others in working area.
2. Warn others in the area to avoid dust
3. Consider rotating personnel across cutting tasks to further limit respirable silica exposures.
4. Use one of the following methods based on the required cutting rate:
  - Best** ■ Villaboard™ knife ■ Hand guillotine ■ Fibreshear
  - Better** ■ 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 M-class vacuum or higher with appropriate filter for capturing fine (respirable) dust. Wear a properly-fitted, approved dust mask or respirator (minimum P1).

#### CUTTING INDOORS

- Cut only using Villaboard™ knife, hand guillotine or fibreshears (manual, electric or pneumatic).
- Position cutting station in a well-ventilated area.

#### DRILLING / OTHER MACHINING

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

#### IMPORTANT NOTES

1. For maximum protection (lowest respirable dust production) James Hardie recommends always using best practice cutting methods where feasible.
2. NEVER use a power saw indoors or in a poorly ventilated area.
3. ALWAYS use a dust reducing circular saw equipped with a sawblade specifically designed to minimise dust creation when cutting fibrecement - preferably a sawblade that carries the HardieBlade™ logo or one with at least equivalent performance - connected to a M class or higher vacuum.
4. NEVER dry sweep - Use wet suppression, or an M class vacuum or higher with appropriate filter.
5. NEVER use grinders.
6. ALWAYS follow tool manufacturers' safety recommendations.
7. ALWAYS wear a properly fitted, approved dusk mask, P1 or higher.

#### DUST MASKS AND RESPIRATORS

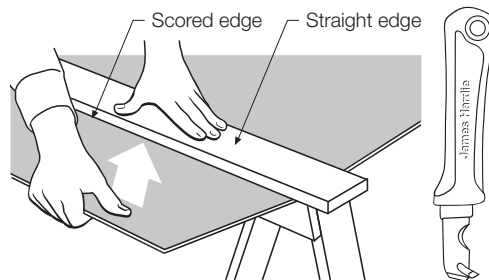
As a minimum, an AS/NZS1716 P1 respirator must be used when doing any activity that may create dust. For more extensive guidance and options for selecting respirators for workplaces please refer to Australian/New Zealand Standard 1715:2009 "Selection, Use and Maintenance of Respiratory Protective Equipment". P1 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.

## 2.1 WORKING INSTRUCTIONS

Refer to recommended safe working practices before starting any cutting or machining of product.

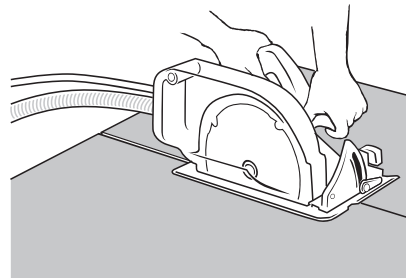
### Villaboard™ Knife - Score and snap

Score and snap is a fast and efficient method of cutting James Hardie™ building products using James Hardie's Villaboard™ knife. Preferably score on the face side of the product. Score against a straight edge and repeat the action to obtain adequate depth for clean break – normally one third of sheet thickness. Snap upwards to achieve break. Smooth any rough edges with a rasp.



### HardieBlade™ Saw Blade

The HardieBlade™ Saw Blade used with a dust-reducing saw is ideal for fast, clean cutting of James Hardie™ fibre cement products. 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.



## 2.2 STORAGE AND HANDLING

To avoid damage, all 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, moisture, etc.

# 3 Design Considerations

All design and construction must comply with the appropriate requirements of the current National Construction Code (NCC) and other applicable regulations and standards.

## 3.1 FRAMING AND STRUCTURE

### 3.1.1 Framing

RAB™ Board is installed vertically over timber stud or light-gauge steel framing. The framing used must comply with the relevant building regulations and standards.

Steel framing must have the appropriate level of durability required to prevent corrosion, particularly in coastal areas. Steel framing BMT must be between 0.55mm to 1.66mm. Refer to Table 1 for steel stud and fastener spacing. Refer to the NASH standard or frame manufacturer for more information.

Timber framing must be in accordance with framing manufacturer's specifications. Refer to Table 2 for timber stud and fastener spacing.

The builder is permitted to cut the RAB™ boards to make up shorter segments of wall, for example between openings, however boards must span over at least three studs so that a minimum two-span continuous arrangement is maintained. Do not fix boards in a single span layout.

### 3.1.2 Tolerances

Ensure frame is square and work from a central datum line. Frames must be straight and true to provide a flush face to receive the sheeting. A suggested maximum tolerance up to 4mm in any 3000mm length of frame will give best results. RAB™ Board will not straighten excessively warped or distorted frames.

## 3.2 WATER MANAGEMENT

### 3.2.1 Water Control Classification

RAB™ Board is classified as a Water Barrier in accordance with the equivalent water barrier classifications within AS/NZS 4200.1 'Pliable building membranes and underlays, Part 1: Materials' and AS 4201.4 'Resistance to water penetration'.

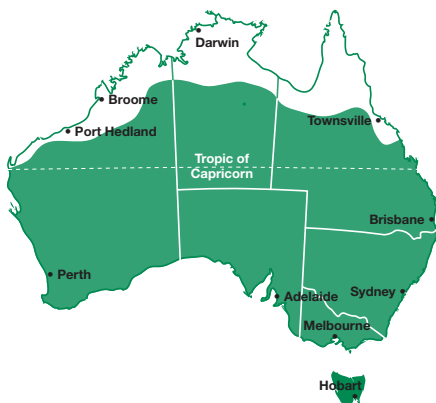
James Hardie RAB™ Board is factory sealed on the front face, CoreShield™ Technology, a penetrating sealer which repels moisture rapidly and resists penetration, therefore no additional water barrier or sarking is required when the jointing and taping is correctly applied.

### 3.2.2 Condensation Management

RAB™ Board is classified as Vapour Permeable (Class 3) when assessed using the Vapour Permeance classifications of AS/NZS 4200.1 based on testing in accordance with ASTM E96, and appraisal from BRANZ.

James Hardie recommends using a vapour permeable membrane in accordance with AS 4200.1:2017 and AS 4200.2:2017 such as RAB™ Board or equivalent in all external cladding in climate zones 2-8 (marked as green).

In Climate Zone 1, apply a vapour barrier membrane over the surface of RAB™ Board in accordance with AS4200:2017.



### 3.2.3 Sealing Tape

Vertical joints, horizontal junction and windows must be sealed with a suitable and approved sealing tape. James Hardie recommends using either 3M All Weather Flashing 8067min 75mm wide or Pro Clima TESCON EXTORA min 60mm wide .

The sealing tapes must be pressed hard over the James Hardie rigid air barriers surface while fixing so that they achieve the required bond. The sealing tapes must not be exposed to elements for more than 180 days. This achieves the required protection when the cladding is installed. The claddings must be installed within 180 days.

## 3.3 STRUCTURAL DESIGN

### 3.3.1 Design Wind Pressure

RAB™ Board is suitable to withstand high wind pressures in conjunction with cladding and commercial façade systems. In these applications, RAB™ Board must be fixed directly to appropriate steel (see Table 1) or timber (see Table 2) framing members.

Where Design Wind Pressure exceeds 7.0kPa please contact James Hardie for more information.

NOTE: RAB™ Board has been designed for a lower wind speed on the basis that it is a temporary structure and must therefore be covered by a suitable cladding or facade system within 6 months (180 days).

**TABLE 1 - STUD AND FASTENER SPACING  
ULTIMATE DESIGN WIND PRESSURE**

| Ultimate Design Wind Pressure – ULS (kPa) | Stud Spacing (mm) | RAB™ Board Fastener Spacing (mm) |
|---|-------------------|----------------------------------|
| 1.5                                       | 600               | 300                              |
| 2.0                                       | 600               | 300                              |
| 2.5                                       | 450               | 300                              |
| 3.0                                       | 450               | 250                              |
| 3.5                                       | 450               | 225                              |
| 4.0                                       | 400               | 225                              |
| 4.5                                       | 400               | 200                              |
| 5.0                                       | 350               | 200                              |
| 5.5                                       | 350               | 200                              |
| 6.0                                       | 300               | 200                              |
| 6.5                                       | 300               | 200                              |
| 7.0                                       | 300               | 175                              |

#### Notes to table 1:

- Table 1 is appropriate for V500 and V1000 regional wind designs.
- RAB board has been designed for a lower wind speed with an annual recurrence interval (ARI) of 1:25, on the basis that it is a temporary structure and must therefore be covered by the external façade within six months.
- The 6mm RAB board is designed to be supported/ fixed onto its own stud-framing system, for example a minimum of 0.55mm gauge steel framing, independent of the external façade framing system. The external facade sheets may however be fixed to the same framing as the RAB layer provided that (i) the RAB stud spacing is adequate for that product at the design wind loading level and (ii) the facade sheets are fixed through to the studs and do not rely on the RAB sheet for structural support. Contact James Hardie if you wish to use timber framing for the RAB layer.
- The structural design and performance of any non-James Hardie façade system placed over the top of the RAB system, is the responsibility of others.

### 3.3.2 Structural Bracing

When RAB™ Board is to be used as structural bracing it must be fixed along the top and bottom edge (see Figure 3). The spacing between the fixings depends on the required bracing capacity. Do not affix RAB™ Board to a deflection head track.

For more information and specification of fastener spacings, the designer must refer to James Hardie's Structural Bracing Application Guide available at [www.jameshardie.com.au](http://www.jameshardie.com.au).

| TABLE 3 - BRACING CAPACITY  |                          |                     |                     |                           |                             |
|---|--------------------------|---------------------|---------------------|---------------------------|-----------------------------|
| Wall Configuration  | Bracing Capacity (kN/m)* |                     |                     | Maximum Stud Spacing (mm) | Fastener Spacing A/B/C (mm) |
|   | Timber stud              | 0.55 BMT Steel Stud | 0.75 BMT Steel Stud |                           |                             |
| RAB™ Board affixed to external side of stud – assuming standard plasterboard or no internal lining~ | -                        | 3.0                 | 3.3                 | 600                       | 200/200/200                 |
|   | 2.8                      | 3.0                 | 3.3                 | 600                       | 150/150/200                 |
|   | 3.3                      | 5.4                 | 6.0                 | 600                       | 100/100/150                 |
|   | 3.3                      | 6.0                 | 6.2                 | 450                       | 100/100/150                 |
|   | 6.6                      | 6.0                 | 6.2                 | 450                       | 50/100/150                  |

\* Bracing capacity will be reduced where the wall is higher than 2.7metres. Walls that are 3m will require a reduction factor of 0.9. Bracing capacity will be reduced for panels that are cut and installed less than 900m width. Refer to James Hardie™ Structural Bracing Design Guide Tables 2 and 3 for more information.

### 3.3.3 Fastener Selection

Fasteners must have the appropriate level of durability required for the intended project. This is of particular importance in coastal areas, areas subject to salt spray and other corrosive environments. James Hardie recommends using minimum Class 3 fasteners in coastal areas.

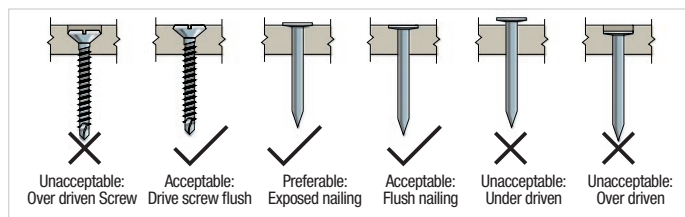
Fasteners must be fully compatible with all other materials that they are in contact with to ensure the durability and integrity of the assembly. Contact fastener manufacturers for more information.

For timber framing use a 2.8 x 30mm galvanised fibre cement nail.

For steel use 25mm HardieDrive™ Screw.

RAB™ Board is sealed with CoreShield™ Technology, the fasteners are not required to be patched, sealed or otherwise treated.

**NOTE:** Fasteners must NOT be overdriven. Fasteners should be screwed as close as possible to the stud corners to avoid deflection of the stud flange.



## 3.4 FIRE SAFETY

### 3.4.1 Non-Combustibility

RAB™ Board is a pre-sealed fibre cement sheet manufactured to comply with AS/NZS 2908.2:2000 Cellulose-cement products - Flat Sheets (ISO 8336 Fibre-cement flat sheets) and is therefore suitable where non-combustible materials are required in accordance with Deemed-to-Satisfy Provisions of the NCC Volume One Amendment 1. (Refer to Section C, Part C1, C1.9 (e)).

The nominated accessories, including the tapes and jointers are have been assessed in accordance with the exemptions and concessions within the fire safety provisions of the NCC (refer to advisory note IGNS-8057). The project specifier or certifier is responsible for ensuring that the materials, accessories and components are suitable and compliant for the specific building.

### 3.4.2 Fire Resistance Level (FRL)

Both one and two way fire rated wall systems are available with the RAB™ Board when used as part of an external wall system. This will depend on the wall configuration and internal materials used. For more information refer to the James Hardie Fire and Acoustic Rated Walls Application Guide.

When RAB™ Board is installed as part of a fire rated wall system, the fire rated plasterboard should be installed direct to the stud framing system, and RAB™ Board installed over the top. Increase the length of the specified fastener by the thickness of the plasterboard to ensure adequate embedment.

## 3.5 ENERGY EFFICIENCY

### 3.5.1 Airtightness

RAB™ Board is classified as an air barrier in accordance with ISO 9237- 1995. RAB™ Board can be used as part of an airtight assembly to satisfy the requirements of JP1(e) NCC 2019 Vol 1. When installed as part of an airtight assembly, with all joints and junctions adequately sealed, RAB™ Board can reduce leakage of internal air to achieve occupant comfort air-change rates.

James Hardie recommends utilising the blower door test in accordance with NCC Vol 1 JV4 (Method 1 of AS/NZS ISO 9972), during and after construction to validate the airtightness of the envelope, allowing the designer to adjust by incorporating more ventilation or improve the building seal.

### 3.5.2 Thermal Efficiency

Section J of the NCC 2019 Vol 1 requires the structure to have certain degree of thermal performance to ensure a limited energy usage. Table 4 presents different system variations and their respective R-Value required as input data in the different compliance pathways (Assessed based on AS4859.2:2018 Thermal Insulation Materials for Building. Part 2: Design). Each calculation result is subject to any specific table requirements and notes.

## 3.6 GROUND CLEARANCE

Install RAB™ Board with a minimum 150mm clearance to the earth on the exterior of the building or in accordance with local building codes if greater than 150mm is required. Maintain a minimum 50mm clearance between RAB™ Board and roofs, decks, paths, steps and driveways. 30mm clearance is required for undercover balconies.

Adjacent finished grade must slope away from the building in accordance with local building codes, typically a minimum slope of 50mm minimum over the first metre.

Do not install RAB™ Board such that it may remain in contact with standing water.

### 3.6.1 Termite Protection for Timber Framing

The National Construction Code (NCC) specifies the requirements for termite barriers. Where the exposed slab edge is used as part of the termite barrier system, a minimum of 75mm of the exposed slab edge must be visible to permit ready detection of termite entry.

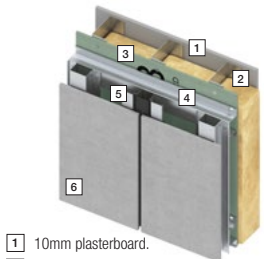
## 3.7 TEMPORARY WEATHER PROTECTION

Installation of internal lining can be started after James Hardie rigid air barriers have been installed on the exterior of the building envelope. In order to achieve this, all sheet joints and penetrations must be sealed and the roof, soffit lining, windows/doors (including flashings) must have been installed to ensure the building is weathertight.

The selected cladding must be installed within 180 days.

### 3.8 FACADE SYSTEM

The claddings/facades used over James Hardie rigid air barriers must satisfy the various performance requirements of the NCC 2019.

| TABLE 4 - TYPICAL FACADE SYSTEMS INCORPORATING JAMES HARDIE RAB™ BOARD           |              |           |           |  |                                     |                        |                        |                            |                     |  |                                     |                        |                        |                            |                     |      |
|--|--------------|-----------|-----------|--|-------------------------------------|------------------------|------------------------|----------------------------|---------------------|--|-------------------------------------|------------------------|------------------------|----------------------------|---------------------|------|
|  | Stud Spacing | Stud Size | Batt Size | James Hardie and intermediate top hats fixed to structural noggins |                                     |                        |                        |                            |                     | James Hardie and intermediate top hats fixed to 15mm horizontal top hats |                                     |                        |                        |                            |                     |      |
|  |              |           |           | Thermal R-Value Summer <sup>3</sup>                                | Thermal R-Value Winter <sup>3</sup> | Thermal U-Value Summer | Thermal U-Value Winter | Acoustic (Rw) <sup>4</sup> | Wall thickness (mm) | Thermal R-Value Summer <sup>3</sup>                                      | Thermal R-Value Winter <sup>3</sup> | Thermal U-Value Summer | Thermal U-Value Winter | Acoustic (Rw) <sup>4</sup> | Wall thickness (mm) |      |
|  |              |           |           | 600  | 450                                 | 300                    | 64mm                   | R1.5                       | 1.33                | 1.43   | 0.75                                | 0.70                   |                        |                            | 1.54                | 1.65 |
| 600  | 450          | 300       | 92mm      | R2.5   | 1.74                                | 1.86                   | 0.57                   | 0.54                       | 47                  | 152  | 2.12                                | 2.27                   | 0.47                   | 0.44                       | 50                  | 167  |
| 600  | 450          | 300       | 150mm     | R2.5   | 1.85                                | 1.97                   | 0.54                   | 0.51                       | 50                  | 210  | 2.19                                | 2.36                   | 0.46                   | 0.42                       | 54                  | 225  |
| 600  | 450          | 300       |           |  | 1.27                                | 1.36                   | 0.79                   | 0.74                       | 45                  | 124  | 1.46                                | 1.56                   | 0.69                   | 0.64                       | 47                  | 139  |
|  |              |           |           |  | 1.17                                | 1.25                   | 0.86                   | 0.80                       |                     |  | 1.32                                | 1.41                   | 0.76                   | 0.71                       |                     |      |
|  |              |           |           |  | 1.64                                | 1.74                   | 0.61                   | 0.57                       |                     |  | 1.96                                | 2.09                   | 0.51                   | 0.49                       |                     |      |
|  |              |           |           |  | 1.46                                | 1.55                   | 0.68                   | 0.64                       |                     |  | 1.71                                | 1.82                   | 0.59                   | 0.55                       |                     |      |
|  |              |           |           |  | 1.75                                | 1.86                   | 0.57                   | 0.54                       |                     |  | 2.05                                | 2.20                   | 0.49                   | 0.46                       |                     |      |
|  |              |           |           |  | 1.58                                | 1.68                   | 0.63                   | 0.60                       |                     |  | 1.81                                | 1.94                   | 0.55                   | 0.52                       |                     |      |

- Notes:
- The above estimates the resulting (overall) Total R for the whole wall surface (excluding glazing) from the parallel heat paths. Insulation R adjusted for its mean temperatures for 18°C indoor and 12°C outdoor winter, or 24°C indoor and 36°C outdoor summer, Australia. Indoor and outdoor air temperatures per AS/NZS4859.2:2018 Clause 5.1. For full report access, please contact James Hardie.
  - Steel frame systems have been estimated with a nominal Base Metal Thickness (BMT) of 0.75mm. For frames with BMT of 0.55mm or lower the overall Total R-Value may be increased by 0.1.
  - Overall resulting R Value per AS/NZS 4859.2:2018 Clause 4.3. Total transmittance (U) calculated by  $U=1/R$ . Total R & U values include indoor and outdoor air film.
  - Refer to James Hardie™ Fire & Acoustic Rated Wall Application Guide or call James Hardie on 13 11 03 for increased fire and acoustic performance. The presented Rw is an acoustic estimate only and was produced using a software tool called INSUL. Comparisons with test data show that it is generally within 3 STC points for most constructions.
  - If 12mm ExoTec™ cladding (R0.020) is used instead of 9mm ExoTec™ cladding (R0.015), all Total R results will increase by 0.005.
  - 10mm plasterboard has R0.059, so for Villaboard™ (R0.013) indoor lining, subtract 0.046 from the above Total R results.
  - RAB™ Board is assumed to be non-reflective on both sides, if the cavity side was reflective, all total R Values results would increase by about 0.5.

### 3.9 COMPLIANCE AND CERTIFICATION

When used as part of a façade system, RAB™ Board replaces the ‘sarking’ layer (pliable building membrane) as the weather barrier. Because RAB™ Board is rigid, and not a pliable membrane, it must be certified as an alternative to NCC Volume One, F1.6. RAB™ Board has been subjected to full scale weatherproofing testing in accordance with AS/NZS 4284 as part of James Hardie’s ExoTec Façade system, which can be used to demonstrate compliance with FP1.4 Weatherproofing.

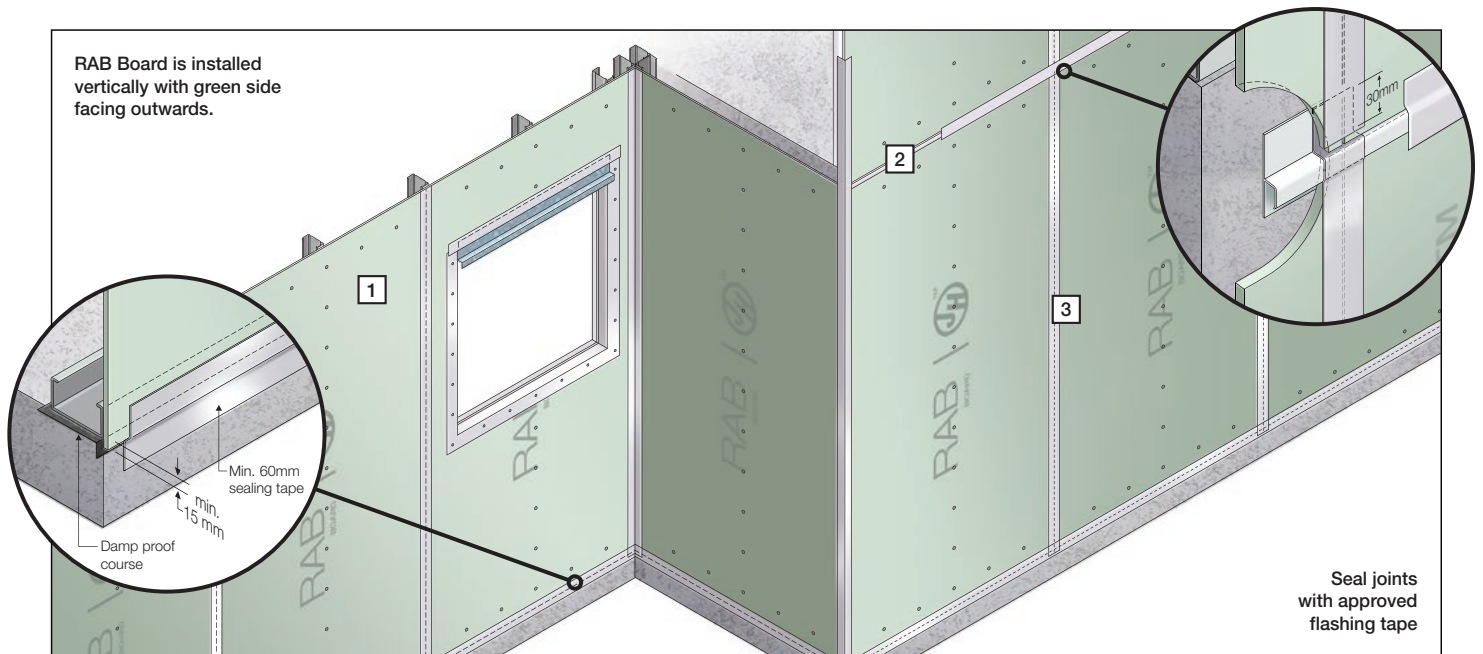
In addition, James Hardie has conducted a series of tests to determine RAB™ Board’s suitability as a secondary weather barrier behind cladding (see Table 5), and as a temporary weather protection for 180 days (see Table 6).

James Hardie can provide any relevant documentation, such as test certificates, to certifiers, engineers and surveyors upon request via our Engineering Solutions team on 13 11 03.

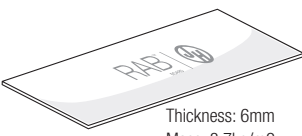
| TABLE 5 - RAB™ Board Physical and Performance Properties |  |  |                              |
|--|--|--|------------------------------|
| Property   | Result   | Test Method or Standard                          | NCC Requirement              |
| Weathertightness   | Suitable for use as a weather barrier behind a cladding or facade system with a drained cavity | AS/NZS 4284                                      | FP1.4 Weatherproofing        |
| Water Control Category                                   | Water Barrier  | AS/NZS 4200.1 (AS 4201.4)                        |                              |
| Air Control Category                                     | Air Barrier (<0.6cm <sup>2</sup> /cm <sup>2</sup> Sec)   | ISO 9237   |                              |
| Vapour Control Category                                  | Vapour Permeable - Class 3 (1.1 MN s/g)  | AS/NZS 4200.1 (ASTM E96B)                        |                              |
| Non-combustible Construction                             | Suitable for non-combustible construction  | DTS via C1.9(e)(iv) via AS/NZS 2908.2 (ISO 8336) | CP2 Fire Spread              |
| Flammability Index                                       | 0,0,0,0-1  | AS 1530.3  |                              |
| Material R-Value   | 0.016m <sup>2</sup> /K/W   | ASTM C 518                                       | JP1 Energy Use               |
| Thermal Expansion  | 0.4x10 <sup>-6</sup> C-1   | AS 4459.8  | BP1.1 Structural Reliability |

| TABLE 6 - RAB™ Board Temporary Weather Protection Properties |                       |                         |
|--|-----------------------|-------------------------|
| Property   | Result                | Test Method or Standard |
| Vapour Resistance  | 1.1 MN s/g            | ASTM E96 B              |
| Vapour Permeance   | 0.95µg/N.S (Class 3)  | AS/NZS 4200.1           |
| Water Permeability   | Passes                | AS/NZS 2908.2           |
| Water Barrier  | Passes                | AS/NZS 4201.4           |
| Water Resistance   | 199.1g/m <sup>2</sup> | AS/NZS 4201.6           |


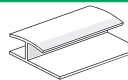

# 4 Product & Accessory Details



## COMPONENTS

| 1 6mm RAB™ Board  |  |             |            |             |           |  |
|---|--|-------------|------------|-------------|-----------|--|
|  <p>Thickness: 6mm<br/>Mass: 8.7kg/m<sup>2</sup></p> | <p>A 6mm specialised fibre cement rigid air barrier that can be used beneath cladding, providing added protection against the elements. This panel is sealed with James Hardie's innovative CoreShield™ penetrating sealer technology, keeping water, air and wind out, while allowing moisture vapour to easily escape. Easy to install and can be exposed for up to 180 days before installing the cladding.</p> |             |            |             |           |  |
|   | Product Code   | Length (mm) | Width (mm) | Weight (kg) | Pack Size |  |
|   | <b>Vertical install over 600, 400 and 300mm framing</b>  |             |            |             |           |  |
|   | 402980   | 2450        | 1200       | 24.0        | 40        |  |
| 405131  | 2750   | 1200        | 26.8       | 40          |           |  |
| 402981  | 3000   | 1200        | 30.0       | 40          |           |  |

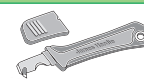
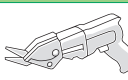

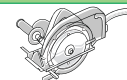
## ACCESSORIES

|   |   |   |
|---|---|---|
| <b>2 James Hardie™ 6mm PVC Flashing Mould</b><br> <p>A PVC extrusion for multicourse fixing of 6mm thick sheets. 3000mm long.<br/>Product Code: 305552</p> | <b>2 James Hardie™ PVC Straight Joiner</b><br> <p>A PVC extrusion used to vertically join sheets over a concrete column<br/>Product code: 305546</p> | <b>3 Sealing Tape</b><br> <p>Tape used to seal vertical joints and flash around window, door and pipe penetrations.<br/>Recommended Tapes:<br/>- 3M All Weather Flashing 8067 min 75mm wide<br/>- Pro Clima TESCON EXTORA min 60mm wide<br/>Please contact James Hardie for alternative tape specifications.</p> |
|---|---|---|

## FASTENERS

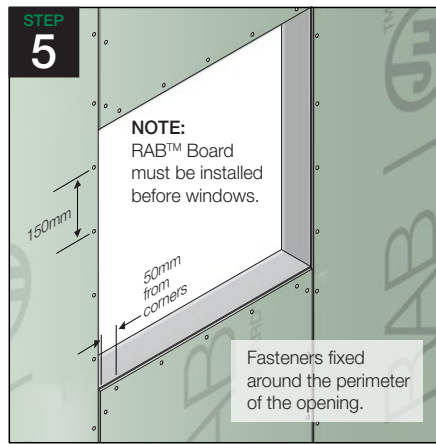
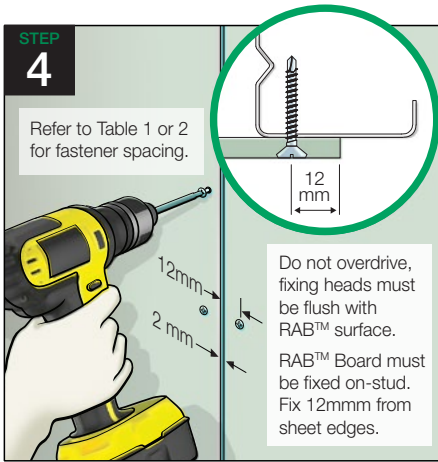
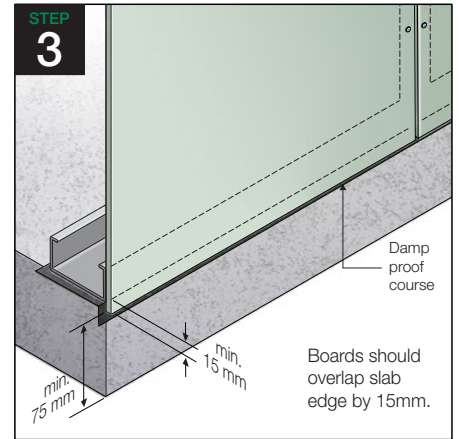
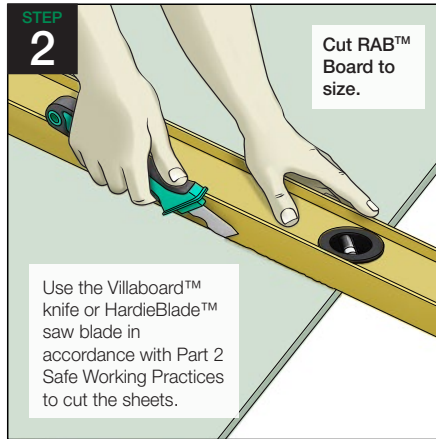
|  |  |  |
|--|--|--|
| <b>4 HardieDrive™ Screw 25mm</b><br> <p>A Class 3 self-tapping wing tipped screw for fastening 0.5mm to 1.6mm BMT light gauges steel frames. 1000 per box.<br/>Product Code: 305979</p> | <b>4 HardieDrive™ Screw Collated 25mm</b><br> <p>A Class 3 self-tapping wing tipped screw for fastening 0.5mm to 1.6mm BMT light gauges steel frames. Suitable for use in most auto feed screw guns.<br/>Product Code: 305980</p> | <b>4 Fibre Cement Nail</b><br> <p>T2.8 x 30mm fibre-cement nail for timber frame. Not supplied by James Hardie.</p> |
|--|--|--|

## TOOLS

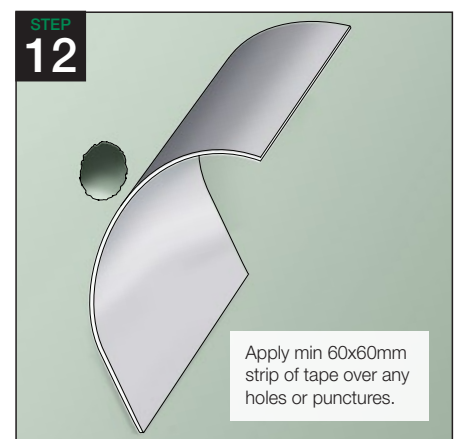
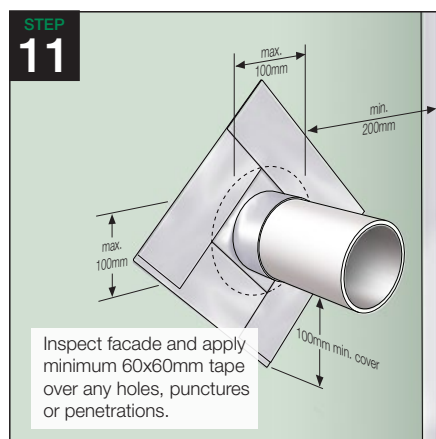
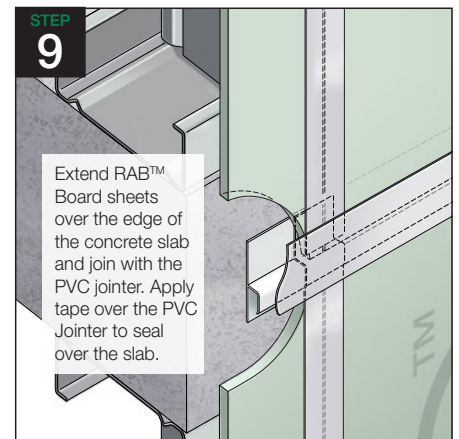
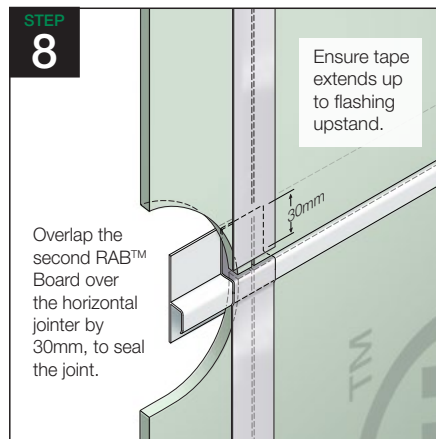
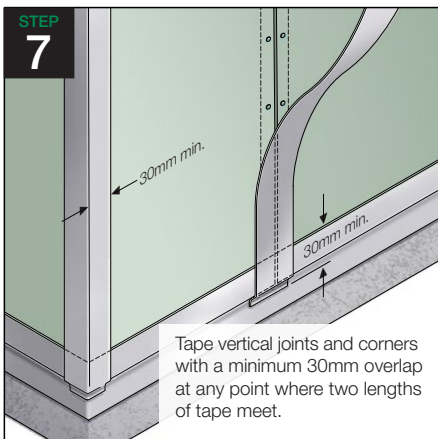
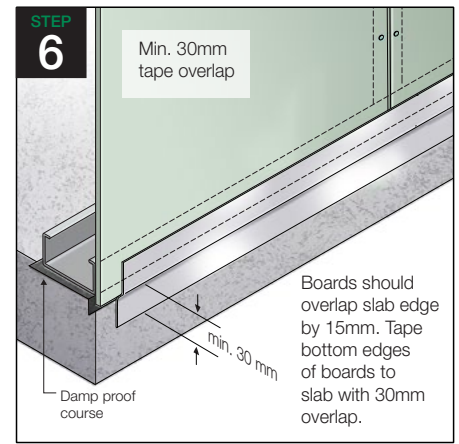
|   |   |   |  |
|---|---|---|--|
| <b>Villaboard™ Knife</b><br> <p>A score and snap knife designed to efficiently cut through fibre cement sheets. Product Code: 305915</p> | <b>James Hardie™ Fibreshear</b><br> <p>Electric tool for cutting fibre cement sheets.<br/>Product Code: 300653</p> | <b>HardieBlade™ Saw Blade 185mm Dia.</b><br> <p>Poly-diamond blade for James Hardie™ fibre cement. Pack Size: 1 each.<br/>Product Code: 300660</p> | <b>Dust reducing saw with M class vacuum or greater extraction</b><br> <p>With HardieBlade™ saw blade used to cut James Hardie™ fibre cement.</p> |
|---|---|---|--|

# 5 Installation

## LAYOUT & FIXING

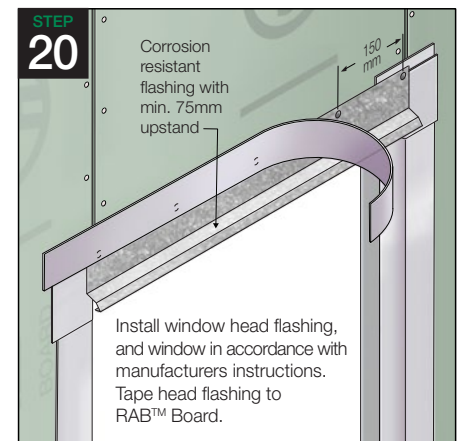
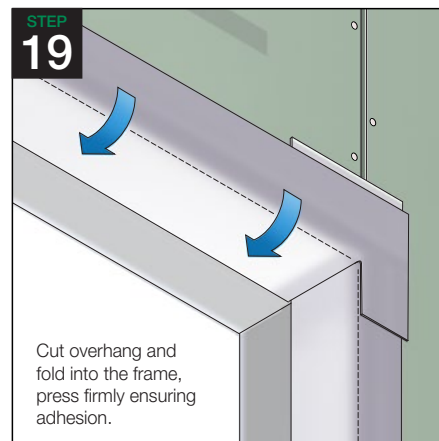
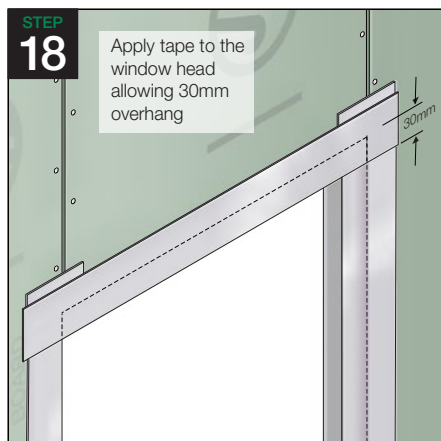
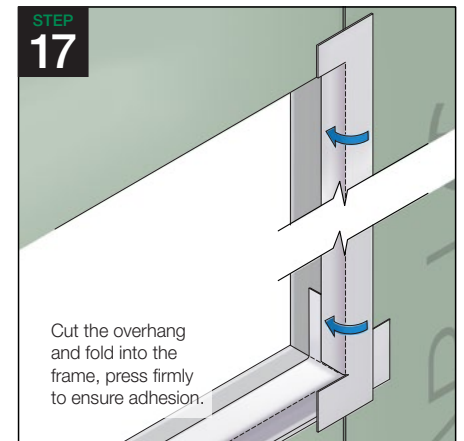
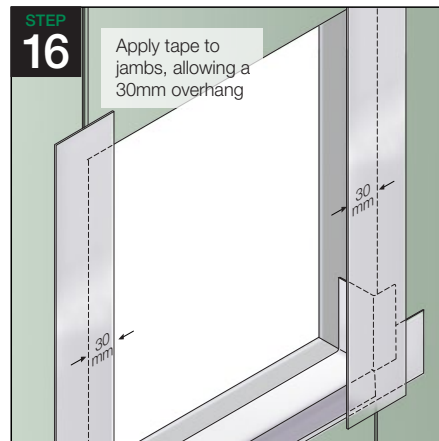
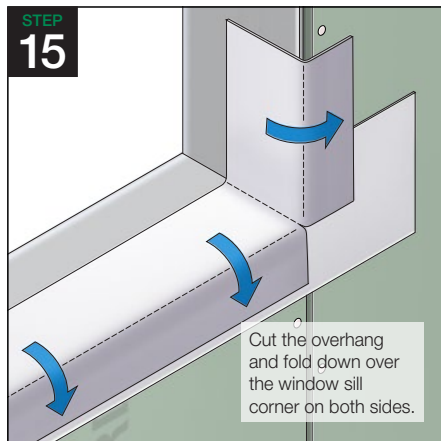
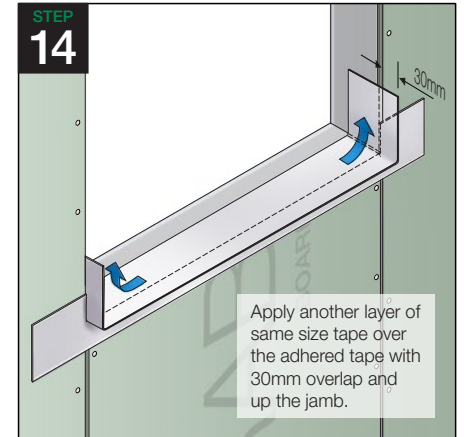
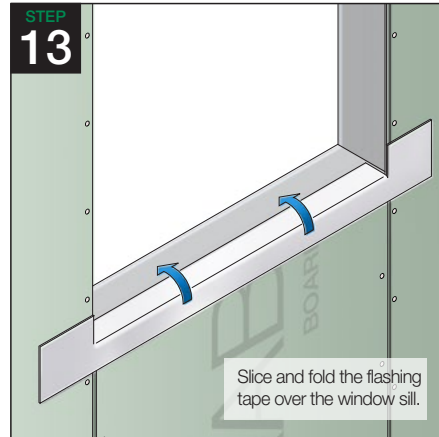
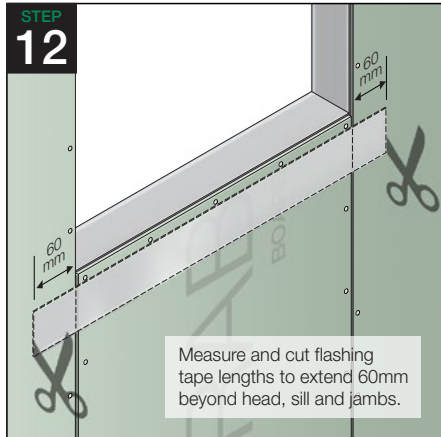


## TAPING





## WINDOWS AND OPENINGS



# 6 Construction Details

## FASTENER AND FIXING DETAILS

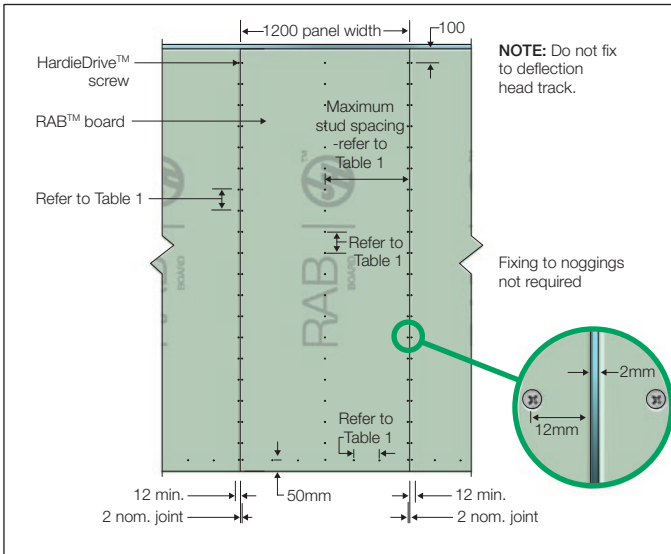


FIGURE 2 STEEL FIXING LAYOUT (NO BRACING)

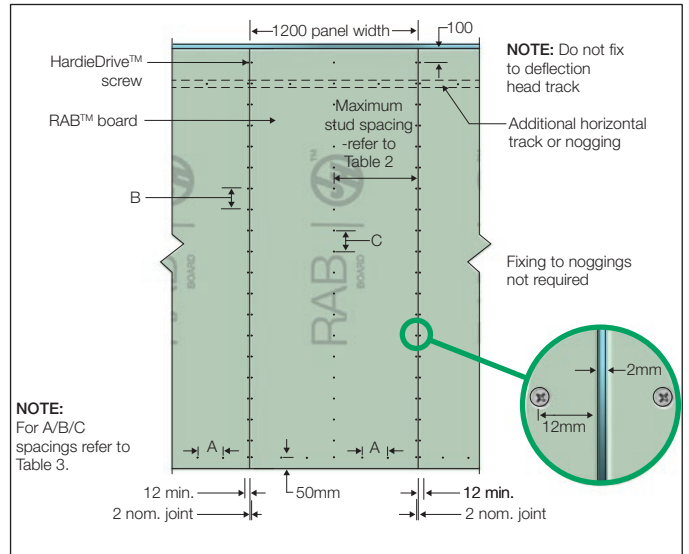


FIGURE 3 STEEL FIXING LAYOUT FOR STRUCTURAL BRACING

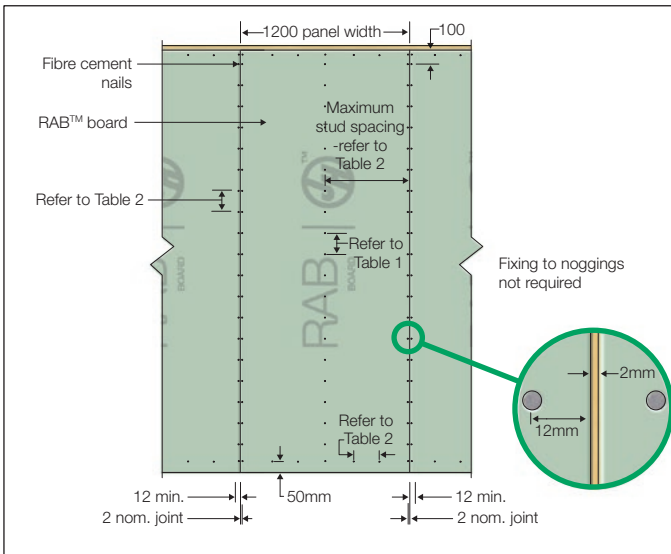


FIGURE 4 TIMBER FIXING LAYOUT (NO BRACING)

## HORIZONTAL SLAB JUNCTION DETAILS

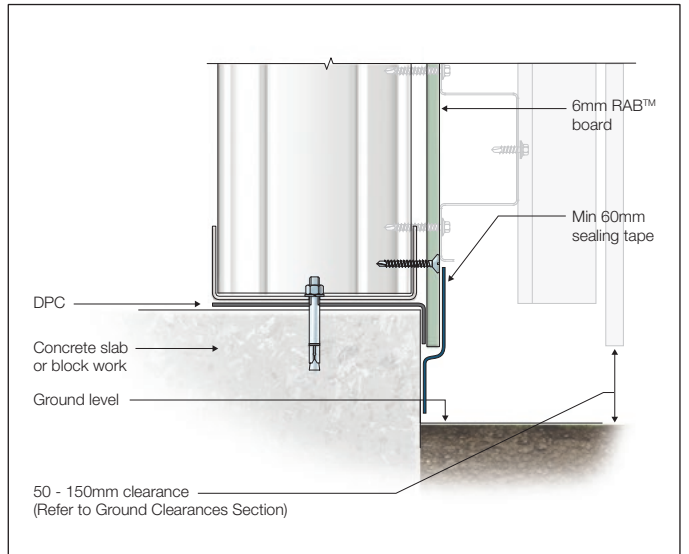


FIGURE 5 BASE DETAIL GROUND FLOOR

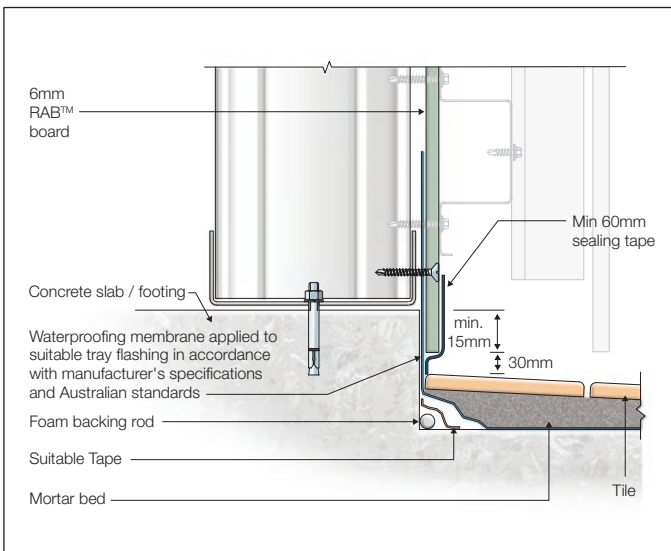


FIGURE 6 BASE DETAIL BALCONY

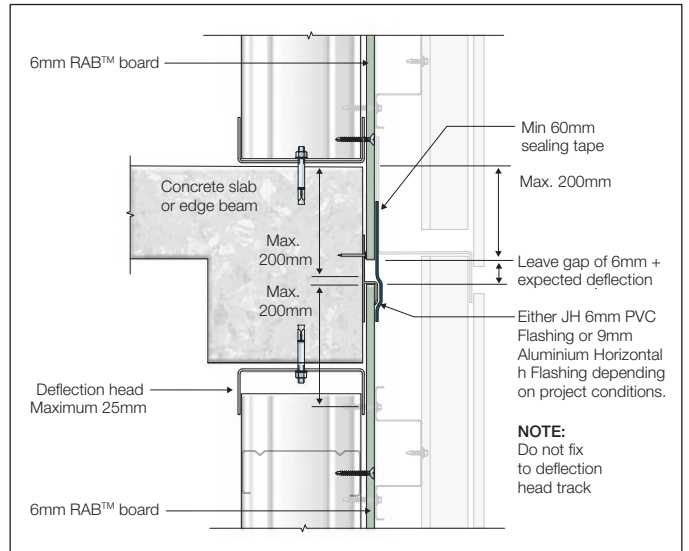


FIGURE 7 HORIZONTAL SLAB JUNCTION (CONTINUOUS)

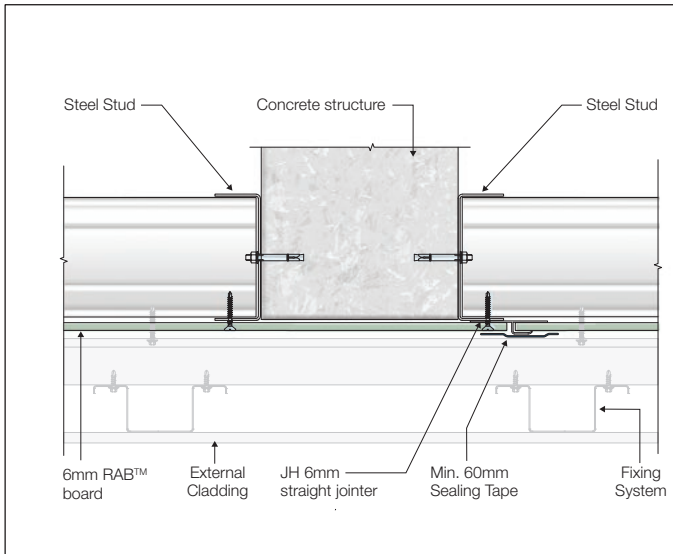


FIGURE 8 VERTICAL COLUMN JUNCTION (CONTINUOUS)

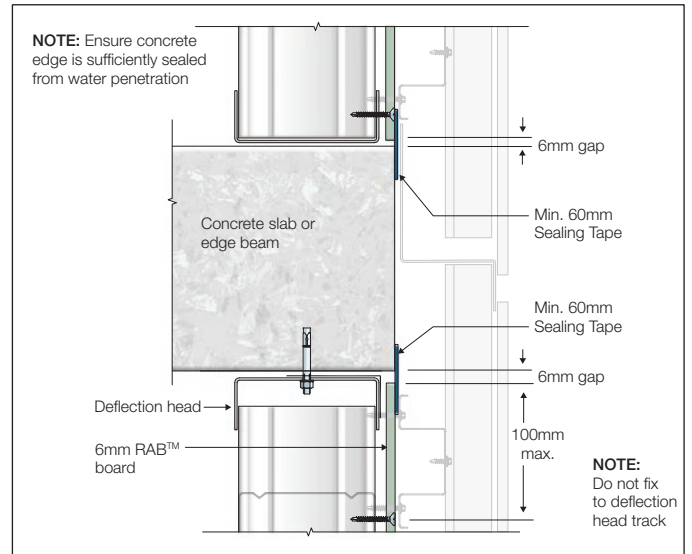


FIGURE 9 HORIZONTAL SLAB JUNCTION (BUTTED)

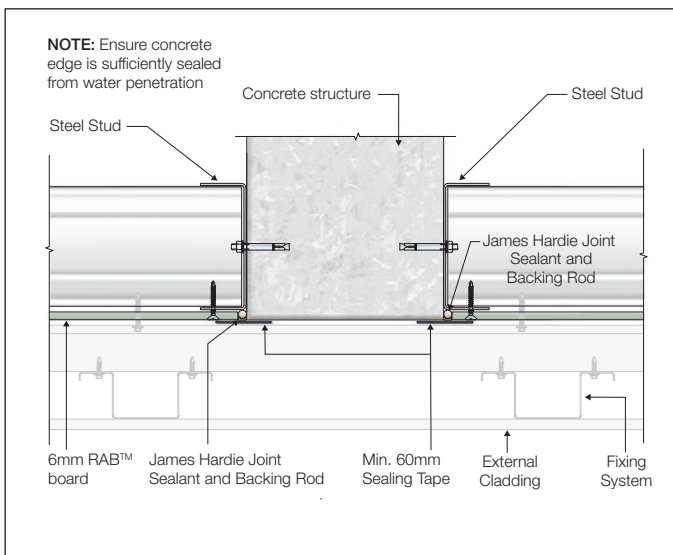


FIGURE 10 VERTICAL COLUMN JUNCTION (BUTTED)

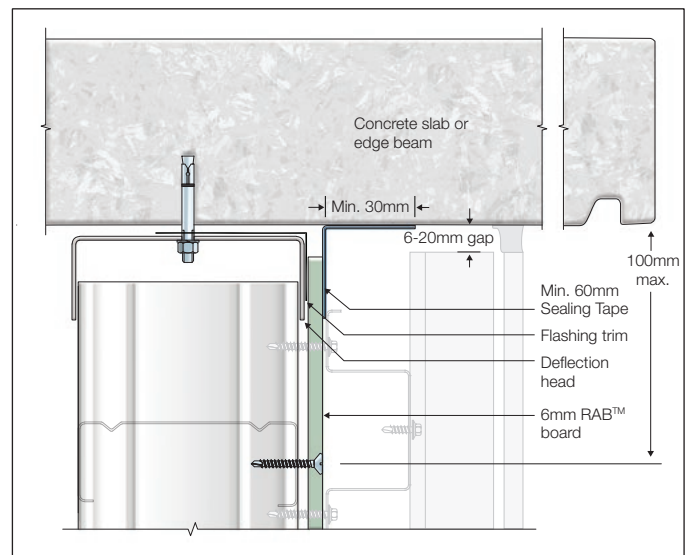


FIGURE 11 UNDER SLAB JUNCTION

JOINTS

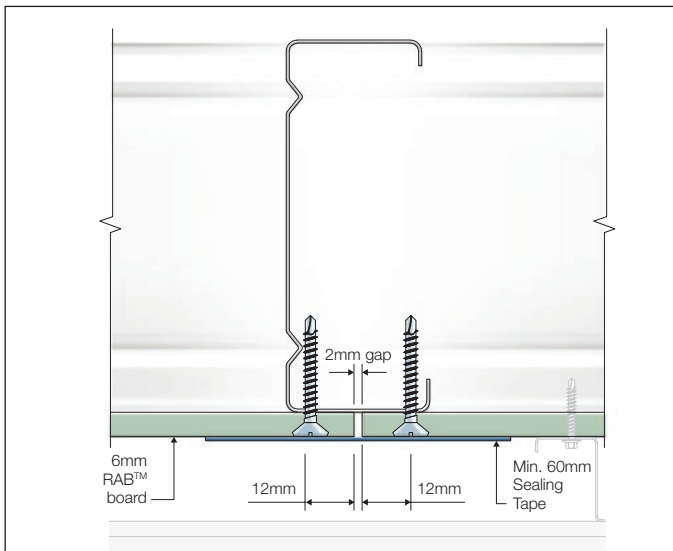


FIGURE 12 VERTICAL SHEET JOINT

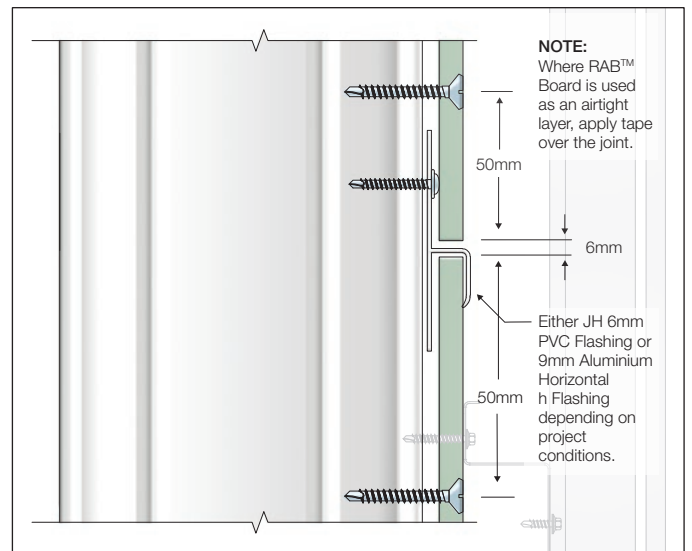


FIGURE 13 HORIZONTAL SHEET JOINT

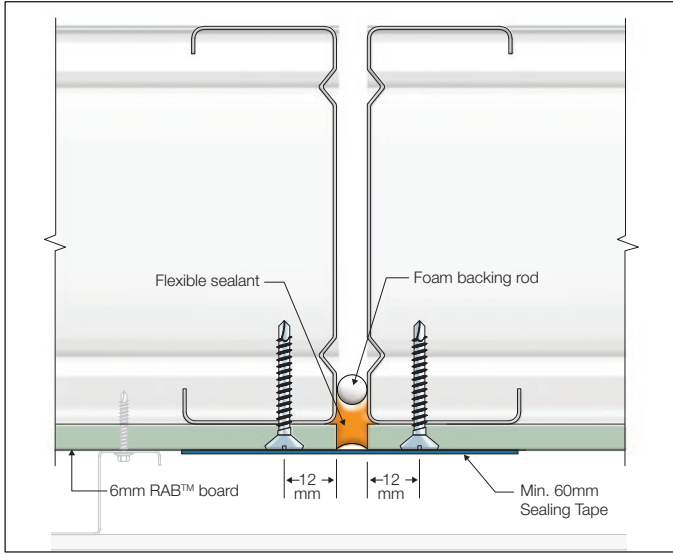


FIGURE 14 VERTICAL CONTROL JOINT

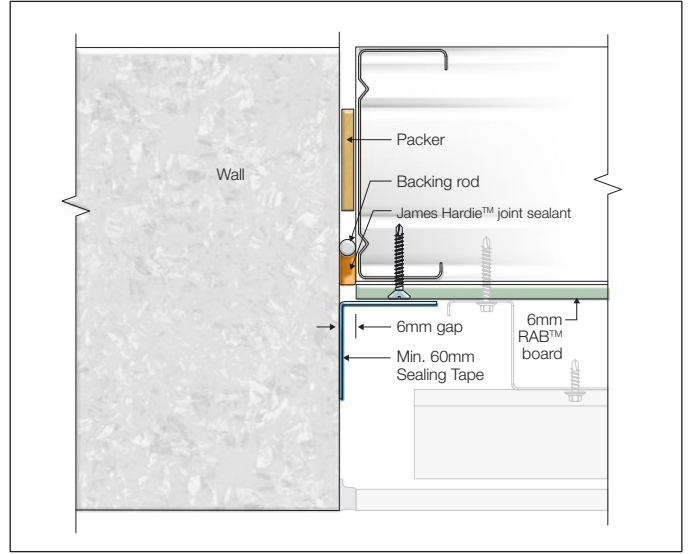


FIGURE 15 ABUTMENT TO MASONRY WALL FOR BALCONY INFILL

## CORNERS

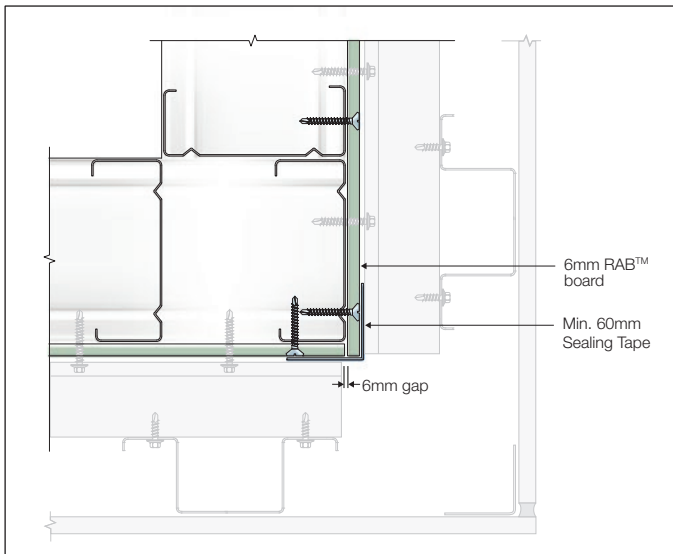


FIGURE 16 EXTERNAL CORNER

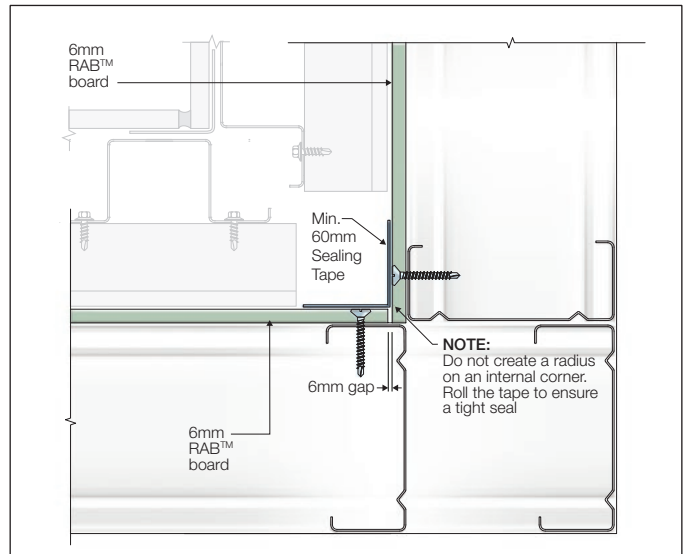


FIGURE 17 INTERNAL CORNER

## WINDOWS

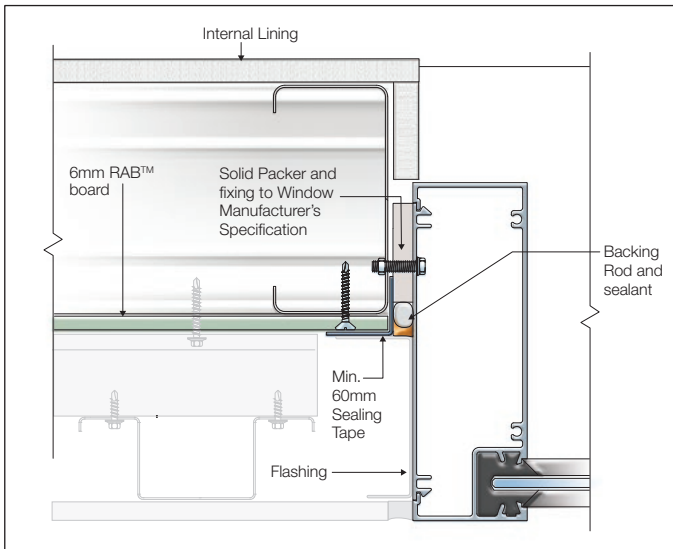


FIGURE 18 FLUSH WINDOW JAMB

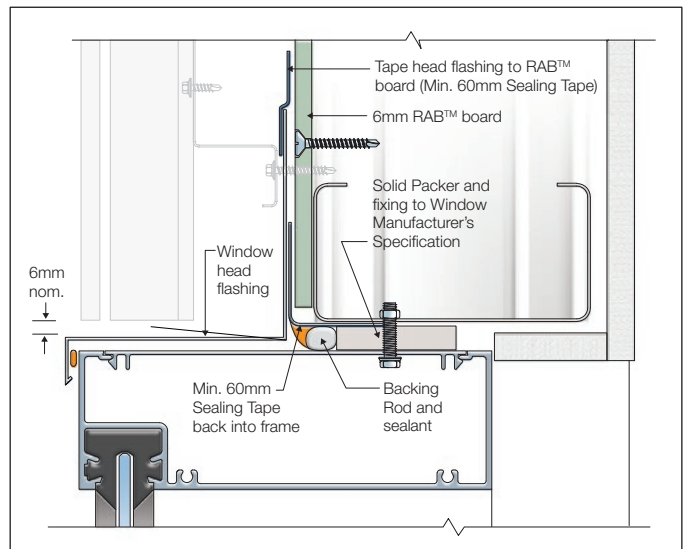


FIGURE 19 FLUSH WINDOW HEAD

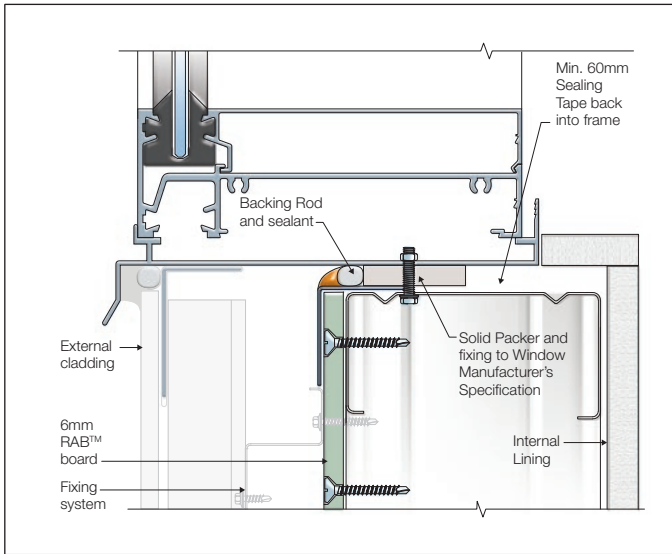


FIGURE 20 FLUSH WINDOW SILL

PARAPET

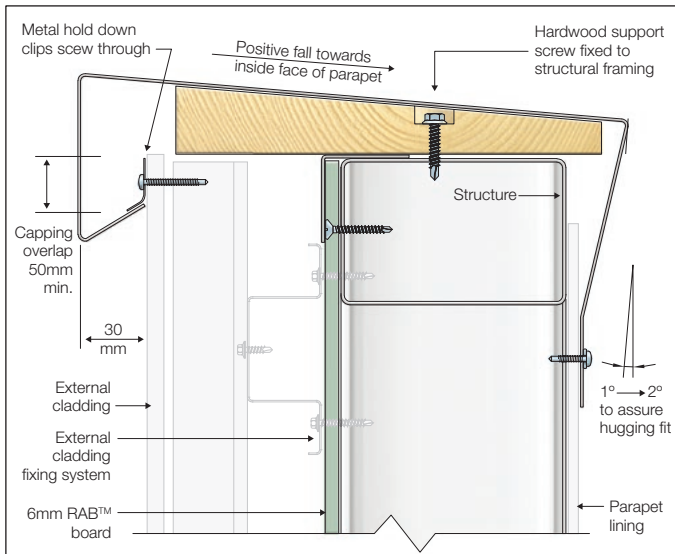


FIGURE 21 PARAPET DETAIL

# 7 Product Information

## PRODUCT INFORMATION

### 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 to 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

#### Resistance to Moisture/Rotting

RAB™ 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)
- Heat rain (Clause 6.5)
- Warm water (Clause 8.2.4)
- Soak dry (Clause 8.2.5)

#### Alpine Regions

James Hardie™ external cladding products are tested for resistance to frost in accordance with AS/NZS 2908.2 Clause 8.2.3.





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

**Australia May 2021**



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