Facade systems

Installation guide

ExoTec® facade panel and fixing system
1 INTRODUCTION

The James Hardie ExoTec® facade panel provides a durable, expressed joint panel appearance for building facades and fascias and together with the ExoTec® fixing system, offers versatility to architects and builders. A variety of design styles can be created including curved walls, panels installed upright vertically, horizontally or in a brick pattern.

A wide range of decorative finishes can be used including site-applied acrylic textures and available factory-applied polyurethane plain colours and metallic finishes.

This document is a guide only. It is intended for use by builders, cladding installers and other contractors who may be involved with the installation of the ExoTec facade panel and fixing system.

This document must be read in conjunction with the project specific drawings and specifications as well as the current James Hardie ExoTec facade panel and fixing system Technical Specification.

Both the 9mm and 12mm thick ExoTec facade panels may be used in wall facades, fascias and soffits.

If you are an installer...

Ensure that you follow the design, moisture management and associated details and material selection provided by the designer. This installation manual must be read in conjunction with the ExoTec facade panel technical specification.

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.

Make sure your information is up to date

When specifying or installing James Hardie products, ensure you have the current manual. If you’re not sure you do, or you need more information, visit www.jameshardie.com.au or Ask James Hardie™ on 13 11 03

NOTE

All dimensions shown are in millimetres unless noted otherwise. All Australian Standards referenced in this manual are current edition and must be complied with.
2 INSTALLATION OVERVIEW

**FIGURE 1 INSTALLATION OVERVIEW**

**HardieWrap™ weather barrier**

HardieWrap™ weather barrier must be installed behind Exotec® Facade Panel and Fixing system in accordance with the AS/NZS 4200.2 ‘Pliable building membranes and underlays – Installation’ and HardieWrap™ Technical Data Sheet.

HardieWrap™ weather barrier delivers a triplesheet of protection to help against external weather penetration, internal condensation build-up and external heat penetration. Additionally, it enhances the wall thermal performance, please refer to www.jameshardie.com.au or www.accel.com.au for more information.

If using an alternate product in lieu of HardieWrap™ weather barrier, the designer must ensure that the product is fit for purpose and it has the following properties in accordance with AS/NZS 4200.1:

- Vapour barrier - low or medium
- Water barrier - high

In hot humid areas of Australia, HardieWrap™ weather barrier may not be suitable, refer to the building designer for a suitable membrane and Ask James Hardie® on 13 11 03.

Soft compressible insulation installed between the front of the wall studs and directly behind the external cladding can cause installation issues and is thus not recommended.

**Thermal Break**

For steel frames, the Building Code of Australia sections J1.5 and 3.12.1 volumes 1 and 2 respectively, state for both residential and commercial buildings a thermal break with an R 0.2m² K/W must be installed behind external cladding where the cladding and internal lining make direct contact with the same steel frame. James Hardie® recommends the HardieBreak™ Thermal Strip. Refer to the HardieBreak™ thermal strip installation guide for more information.
## 3 PRODUCT INFORMATION

### EXOTEC FACADE PANEL INFORMATION

**PRODUCT** | **DESCRIPTION** | **QUANTITY / SIZE (NOMINAL)**
---|---|---
ExoTec facade panel | Dense compressed panel. Square edge. Factory sealed on all six sides. Each panel has a distinctive white face, which accepts a wide range of paint finishes. The panel must be installed with the white side facing the exterior of the structure. Nom. density: 1550kg/m³ | Thickness Width Lengths
9mm | 900mm 1200mm | 1800, 2400, 3000 1920, 2100 2400, 2700, 3000
12mm | 1200mm | 2400, 3000

*All dimensions and masses are approximate and subject to manufacture tolerances.

### ACCESSORIES / TOOLS SUPPLIED BY JAMES HARDIE

| ACCESSORIES / TOOLS | DESCRIPTION |
---|---|
ExoTec® Top Hat | A rolled metal section, for use with ExoTec® facade panel and fixing system, designed to span vertically across the building structure to support facade panels and isolate differential movement of the panels from those of the structure. 12mm wide x 25mm deep x 1.15mm gauge thick. | 45 per pack 6,000mm (304572) 7,200mm (304571)
James Hardie™ Intermediate Top Hat | A metal top hat installed vertically for use with ExoTec® and ComTex® facade panel and fixing system, for intermediate sheet support. 50mm wide x 25mm deep x 1.15mm gauge thick. | 50 per pack 6,000mm (302701) 7,200mm (302700)
ExoTec Gasket Snap Strip. 3,620mm long | For use with the ExoTec® facade panel and fixing system, this gasket snap strip is specially designed to clip into the ExoTec® Top Hat at vertical facade panel joins to cover fixings to the structure and to provide an initial weather seal and drainage using a neoprene gasket. | 10 per pack (306556)
James Hardie™ Backing Strip. 1,190mm, 2390mm, 2990mm | A weather seal at horizontal panel joints for use with ExoTec® facade panel and fixing system and Scyon™ Matrix™ cladding. | 10 per pack 1,190mm (305557) 2,290mm (305558) 2,990mm (305559)
James Hardie™ Façade Washers |Facade washers used for exposed fastener fixing with ExoTec® facade panel and fixing system and Scyon™ Matrix™ cladding. | 1000 per bag (305565)
James Hardie™ Base Coat. 4kg tub, 15kg bag | A water-resistant base coat compound used to finish over countersunk fasteners with epoxy. | 4 per box - 4kg, 1 each - 15kg 4kg tub (305535) 15kg bag (305591)
James Hardie™ Joint Sealant, 300ml cartridge | A general purpose, paintable, exterior grade polyurethane joint sealant. | 20 per box (305534)
HardieBreak™ thermal strip | A building code requirement and is installed behind James Hardie external cladding over metal framing and HardieWrap™ weather barrier. Refer to HardieBreak™ thermal strip installation guide. Unit size 43 x 12 x 2750mm. | 45 per pack (305612)
HardieWrap™ weather barrier | A non-perforated, highly breathable and reflective safe-glare weather barrier designed to be used behind ExoTec® facade panel and fixing system to help protect the building. Unit size 2750mm x 3000mm. | 1 Each (305664)
TOOLS |HardieBlade™ Saw Blade. 185mm diameter | A 185mm diameter poly-diamond blade for fast and clean cutting of James Hardie fibre cement. | 1 Each (300660)

### PRODUCT / ACCESSORIES / TOOLS NOT SUPPLIED BY JAMES HARDIE

**ACCESSORIES** | **DESCRIPTION** | **QUANTITY/SIZE (APPROX)**
---|---|---
Bond breaker tape | Used when filling vertical joints to prevent sealant from bonding to top hat. Refer to the ExoTec facade panel and fixing system Installation Manual for suitable sealant. | 1 Each
8mm masonry drill | Provides a 6.2mm to 6.3mm diameter hole. Used to pre-drill clearance holes for fasteners. | 45 per pack
Countersunk head drill 6mm Countersunk bit. | | 1 Each 45 per pack
Countersunk fasteners | No. 10x30 countersunk head self drilling screws - Class 3 Minimum coating. Fasteners must have the appropriate level of durability required for the intended project. Fasteners must be fully compatible with all other material that it is in contact with to ensure the durability and integrity of assembly. Contact fastener manufacturers for more information. | Exposed head fasteners No. 10x30 countersunk head self drilling screws - Class 3 Minimum coating. Fasteners must have the appropriate level of durability required for the intended project. Fasteners must be fully compatible with all other material that it is in contact with to ensure the durability and integrity of assembly. Contact fastener manufacturer for more information.

James Hardie recommends the following products for use in conjunction with ExoTec facade system. James Hardie does not supply these products and does not provide a warranty for their use. Please contact component the manufacturer for information on their warranties and further information on their products.

### TOOLS

| TOOLS | DESCRIPTION |
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HardieBlade™ Saw Blade. 185mm diameter | A 185mm diameter poly-diamond blade for fast and clean cutting of James Hardie fibre cement. | 1 Each (300660)

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### ACCESSORIES

| ACCESSORIES | DESCRIPTION |
---|---|
Miscellaneous light gauge pressed metal section | Sections 1mm minimum to 1.2mm thickness (maximum) corrosion resistant metal. Used in internal and external corner details. | Epoxy flush sealing (2 part) Countersunk head screws are flush sealed using megapoxy P1 or Hilti CA 125. Where the temperature is below 15º use Hilti CA 273.
Bond breaker tape | Used when filling vertical joints to prevent sealant from bonding to top hat. Refer to the ExoTec facade panel and fixing system Installation Manual for suitable sealant. | Cordless drill Recommended tool for drilling holes and fastening screws.
8mm masonry drill | Provides a 6.2mm to 6.3mm diameter hole. Used to pre-drill clearance holes for fasteners. | Base coat applicator A recommended method of applying James Hardie base coat over epoxy filled countersunk screw heads. This method minimizes waste. Base coat is easily sanded by comparison to epoxy fillers.
Countersunk head drill 6mm Countersunk bit. | | Flexible tape A flexible self-adhesive tape used in preparation of a window. Refer to the window installation section in this Installation Manual for more information.
Countersunk fasteners | No. 10x30 countersunk head self drilling screws - Class 3 Minimum coating. Fasteners must have the appropriate level of durability required for the intended project. Fasteners must be fully compatible with all other material that it is in contact with to ensure the durability and integrity of assembly. Contact fastener manufacturers for more information. | Exposed head fasteners No. 10x30 countersunk head self drilling screws - Class 3 Minimum coating. Fasteners must have the appropriate level of durability required for the intended project. Fasteners must be fully compatible with all other material that it is in contact with to ensure the durability and integrity of assembly. Contact fastener manufacturer for more information.

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4 SAFE WORKING PRACTICES

WARNING - DO NOT BREATHE DUST AND CUT ONLY IN WELL VENTILATED AREA
Jesms 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 and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area to avoid breathing dust; (4) wear a properly-fitted, approved dust mask or respirator (e.g. P1 or P2) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheets available at www.jameshardie.com.au. FAILURE TO ADHERE TO OUR WARNINGS, MATERIAL SAFETY DATA SHEETS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

JAMES HARDIE RECOMMENDED SAFE WORKING PRACTICES

<table>
<thead>
<tr>
<th>CUTTING OUTDOORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Position cutting station so wind will blow dust away from the user or others in working area.</td>
</tr>
<tr>
<td>2. Use a dust reducing circular saw equipped with HardieBlade™ Saw Blade and HEPA vacuum extraction.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SANDING/DRILLING/OTHER MACHINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>When sanding, drilling or machining you should always wear a P1 or P2 dust mask and warn others in the immediate area.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMPORTANT NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. NEVER use a power saw indoors.</td>
</tr>
<tr>
<td>2. NEVER use a circular saw blade that does not carry the HardieBlade™ logo.</td>
</tr>
<tr>
<td>3. NEVER dry sweep - Use wet suppression or HEPA vacuum.</td>
</tr>
<tr>
<td>4. NEVER use grinders.</td>
</tr>
<tr>
<td>5. ALWAYS follow tool manufacturers’ safety recommendations.</td>
</tr>
</tbody>
</table>

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

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

HardieBlade™ Saw Blade
The HardieBlade™ Saw Blade used with a dust-reducing saw is ideal for fast, clean cutting of James Hardie fibre cement products. A dust-reducing saw uses a dust deflector or a dust collector which can be connected to a vacuum system. When sawing, clamp a straight-edge to the sheet as a guide and run the saw base plate along the straight edge when making the cut.

HOLE-FORMING
For smooth clean cut circular holes:
• Mark the centre of the hole on the sheet.
• Pre-drill a pilot hole.
• Using the pilot hole as a guide, cut the hole to the appropriate diameter with a hole saw fitted to a heavy duty electric drill.

For irregular holes:
• Small rectangular or circular holes can be cut by drilling a series of small holes around the perimeter of the hole then tapping out the waste piece from the sheet face.
• Tap carefully to avoid damage to sheets, ensuring the sheet edges are properly supported.

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

James Hardie building products must be installed in a dry state and protected from rain 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.

QUALITY
James Hardie conducts stringent quality checks to ensure any product manufactured falls within our quality spectrum. It is the responsibility of the builder to ensure the product meets aesthetic requirements before installation. James Hardie will not be responsible for rectifying obvious aesthetic surface variations following installation.
5 PREPARATION

Prior to installation of the ExoTec Facade Panel and Fixing System ensure that the required preparation steps have been followed, see Figure 2.

NOTES
1. For high walls it may be necessary to provide flashing to drain the facade at one or more intermediate levels. The installation of any barrier must not restrict moisture from reaching flashings and draining out.
2. The engineer must limit the deflection of the supporting structure to span/250 for serviceability Wind Load. See Clause 2.6 of the ExoTec facade panel and fixing system Technical Specification.
The ExoTec facade panel can be installed upright horizontally or vertically. The panel layout will determine the location of the ExoTec and intermediate JH top hats, see Figures 3 to 6. The vertical expressed joints may be aligned or offset in a brick pattern layout.

**KEY**

TH: ExoTec top hat
INT: Intermediate JH top hat
The top hats must be installed vertically over steel, masonry or timber structures, see Figure 7. The top hat fixing to the structure must be as per the engineer’s detail.

**TOP HAT INSTALLATION**

ExoTec facade panels must be fixed to:

1) ExoTec top hat for vertical sheet joints.
2) Intermediate JH top hat for supporting the panels between vertical sheet joints.

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**STEP 1**

Ensure a straight subframe for fixing of the top hats and the ExoTec facade panels. Where required, provide suitable packing between the substructure and the top hats limited to 20mm. This must be approved by the site engineer.

**STEP 2**

For top hat span and spacing refer to the project specific specification and the James Hardie ExoTec facade system Technical Specification (Table 1).

**STEP 3**

Fix the ExoTec top hats and Intermediate JH top hats vertically to the substructure according to structural engineer specifications.

**STEP 4**

Fix the ExoTec gasket snap strip into all ExoTec top hats by starting at one end and pushing into the ExoTec top hat along it’s length.

Ends of the snap strip are butted together in the top hats without any need for sealant.

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**FIGURE 7 TOP HAT INSTALLATION**
**PANEL INSTALLATION**

Panels are installed with a 10mm nominal expressed joint between adjacent panels, vertically and horizontally. Vertical joints up to 20mm width can be formed, with additional care required at installation to ensure the panel edges cover the ExoTec gasket snap strip on both sides of the joint. A minimum vertical expressed joint of 6mm is allowed with care. Horizontal joints are a nominal 10mm.

**NOTE**

When applying sealant to the edge of the ExoTec facade panel, refer to page 13 for recommended sealants.

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**FIGURE 8 TYPICAL PANEL AND FRAMING LAYOUT**

**FIGURE 9 TOP HAT AND PANEL FIXING DETAIL**
FASTENING METHODS

Panels may be fixed to ExoTec top hats and intermediate JH top hats by either:

1. **Countersunk fasteners:** flush finished over screw heads with a suitable epoxy, and then with James Hardie base coat. Generally used with site-applied acrylic coatings.

2. **Exposed head screws:** using pan, wafer or hex head screws. Used where pre-finished panels are installed. Exposed head fasteners may be colour coated to match panel finish.

Fasteners must have the appropriate level of durability required for the intended project. This is of particular importance in coastal areas, subject to salt spray and other corrosive environments.

Fasteners must be fully compatible with all other materials that the fasteners will come in contact with, to ensure the durability and integrity of assembly.

See Tables 3 and 4, for maximum fastener spacings to top hats for design wind pressure in the current ExoTec facade panel and fixing system Technical Specification.

Contact fastener manufacturers for more information.

**Countersunk Fasteners**

1. Mark fastener locations as specified, see Figure 8.

2. Drill clearance holes into ExoTec facade panel, for No.10 gauge screws using a 6mm countersunk masonry drill, which provides a 6.2 to 6.3mm diameter hole, see Figure 10. Countersink hole to a depth of 2.5mm to 3mm. This is measured from the top of the screw to the top of the sheet, see Figure 15.

3. Fasten panel into top hat with corrosion resistant (Class 3 min.) No. 10 gauge x 30mm countersunk head self drilling fasteners. For areas within a corrosive environment refer to fastener manufacturer for suitability and compatibility of fasteners.

4. Clean dust out of holes to ensure adhesion of epoxy sealer.

5. Mix only sufficient epoxy for immediate use. James Hardie recommends the use of megapoxy P1 or Hilti CA 125. Where the temperature is below 15ºC, use Hilti CA 273.

6. Cover countersink fastener with epoxy leveled flush with sheet. To accommodate for second coat do not overfill hole. Allow epoxy to cure.

7. Apply James Hardie base coat over epoxy using the base coat applicator. See Figures 12, 13, and 14.
1. Mark fastener locations as specified (see Figure 8).
2. Drill clearance holes for No. 10 gauge screws using a 6mm masonry drill, which provides a 6.2 to 6.3mm diameter hole.
3. Fasten panel using corrosion resistant (minimum class 3) No. 10 gauge x 25mm pan, wafer or hex head self drilling screw into top hat. For areas within a corrosive environment, refer to fastener manufacturer for suitability and compatibility of fasteners and relevant standard.
4. For exposed head fasteners, ExoTec facade washers are recommended to be inserted between the panel and the fastener.

8. Sand James Hardie base coat smooth when cured with 100-120 grit sandpaper.

**NOTE**
Do not use hammer action.

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**FIGURE 14 SCREW HEAD COVERED BY EPOXY AND JH BASE COAT**

**FIGURE 15 COUNTERSUNK FASTENER DETAIL**

**FIGURE 16 DRILL CLEARANCE HOLE**

**FIGURE 17 WASHER AND SCREW INSTALLATION**

**FIGURE 18 EXPOSED HEAD FASTENER DETAIL**
BACKING STRIP INSTALLATION

At horizontal panel joints, ExoTec backing strips are adhered along the back top edge of the ExoTec facade panel prior to panel installation.

1. The ExoTec backing strip is cut the width of the panel.

2. Apply a continuous 6mm diameter bead of polyurethane sealant to the backing strip below the stop.

3. Fix the ExoTec backing strip to the back top edge of the ExoTec facade panel. Ensure the ExoTec backing strip stop is resting on the ExoTec facade panel top edge.

4. When installing, apply 6mm diameter sealant bead between back of the backing strip and top hat. Continue bead onto back of panel. Install panel before sealant cures to ensure bond.

5. Sealant fill the back of the rolled stop at each end 50mm long with 3mm sealant bead.

6. Apply a continuous filler of sealant along the top edges of the panel into the horizontal joint, refer to sealant section in this manual.

7. Allow sealant to cure before fixing panel.

8. Install ExoTec facade panel.

9. Do not fix fasteners through the ExoTec backing strip.

10. Ensure the ends of the ExoTec backing strip cover and seal up against the vertical neoprene gasket strips.

11. Fix next course of panels to ExoTec backing strip above the stop.

FIGURE 19 APPLYING SEALANT TO EXOTEC BACKING STRIP

FIGURE 20 APPLYING SEALANT TO HORIZONTAL JOINT

FIGURE 21 SEALING EXOTEC BACKING STRIP END DETAIL

FIGURE 22 INSTALLING NEXT COURSE OF PANELS DETAILS
SEALANT FILLED JOINTS
For design wind pressures including and above 4.0 kPa, all horizontal and vertical joints must be continuously sealed over bond breaker tape.

Where joints are required to be sealant filled, James Hardie Joint sealant and Bostik Seal ‘n’ flex are recommended. Where vertical joints are sealed, a bond breaker tape must be installed behind the sealant.

CURVED FACADES
The ExoTec facade panel and fixing system can be used to follow curved walls as described below:

For radii 10m or greater
Use 9mm thick ExoTec facade panels which can be easily bent to the curve of the frame. ExoTec facade panels are to be fixed in a horizontal orientation only. Refer to Table 4 for maximum top hat spacing.

<table>
<thead>
<tr>
<th>TABLE 4</th>
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<tbody>
<tr>
<td>MAX. TOP HAT SPACING FOR VARIOUS RADII</td>
</tr>
<tr>
<td>RADII (m)</td>
</tr>
<tr>
<td>900mm wide panels</td>
</tr>
<tr>
<td>10 to 15</td>
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<tr>
<td>&gt;15</td>
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</table>

NOTES
1. The closer the spacing of top hats, the less likely they will read through as facets in the panels, particularly at a small radii.
2. 9mm thick panels may be able to be curved to a smaller radius, but this is likely to overstress panels.

NOTE
When fixing curved sheets, commence fixing from the centre and work outwards to avoid “drumminess”.

Particular care should be taken when curving panels to ensure the supports are on a true curve. If not, apart from poor appearance, there is a risk of locally over-stressing the panels and causing cracking.

Alternate materials and installation methods are available for radii less than specified above including, glass reinforced cement (GRC) installed according to manufacturer’s specifications.

For further information on curved facades contact Ask James Hardie™ on 13 11 03.
9 JUNCTIONS

All the following CAD details are available at ACCEL™ www.accel.com.au.

BASE SLAB JUNCTION
This junction can be treated in a number of ways, two of which are illustrated in Figures 23 and 25.

FIGURE 23 WALL BASE TYPICAL CUTAWAY DETAIL 1

FIGURE 24 WALL BASE TYPICAL DETAIL 1

FIGURE 25 WALL BASE CUTAWAY TYPICAL DETAIL 2

FIGURE 26 WALL BASE TYPICAL DETAIL 2
**HEAD SLAB JUNCTION**
Where the cladding forms a junction with an exposed slab, the detail must accommodate for slab deflection. Refer to the structural engineer for appropriate recommendations. A typical deflection head detail is shown in Figure 27.

**SOFFIT JUNCTION**
There are many ways of detailing the soffit junction and it is important to ensure that a drip edge is provided. A typical approach to install the soffit fascia junction is shown in Figure 28. Ensure the ExoTec gasket snap strip is installed to the bottom of the fascia panel.

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**FIGURE 27 WALL DEFLECTION HEAD USED UNDER SLAB**

**FIGURE 28 TYPICAL SOFFIT DETAIL**

**NOTE**
It is essential that a continuous flashing is provided behind the top hats at the base of the fascia to allow moisture to escape. See Table 5 of the ExoTec facade panel and fixing system Technical Specification for required height of the flashing upstand.
10 EXTERNAL CORNERS

This section contains various methods of finishing external corners using the ExoTec facade panel and fixing system.

**FIGURE 29 EXTERNAL CORNER CUTAWAY DETAIL**

- Min. 75x75mm L section
- 1mm corrosion resistant metal angle
- HardieWrap™ weather barrier
- Continuous Sealant beads

**FIGURE 30 EXTERNAL CORNER DETAIL**

- 9mm ExoTec facade panel
- Intermediate JH top hat
- Top hat fixing to structure to engineers detail
- Continuous sealant bead
- Structure rigid at corners, e.g. bolted together
- HardieWrap™ weather barrier

**FIGURE 31 NON SQUARE EXTERNAL CUTAWAY CORNER**

- 1mm corrosion resistant metal angle
- Top hat fixing to structure to engineers detail
- Continuous sealant bead
- Structure rigid at corners, e.g. bolted together

**FIGURE 32 NON SQUARE EXTERNAL CORNER**

- Max. half of top hat spacing
- 12mm across face
- Continuous sealant beads
- Top hat fixing to structure to engineers detail
11 INTERNAL CORNERS

![Figure 33 Internal Corner Cutaway Detail](image1)

![Figure 34 Internal Corner Detail](image2)
The ExoTec facade panel and fixing system provides an opportunity to consider a range of alternative window treatments. The building designer, in conjunction with the window manufacturer, must consider the adequate weatherproofing of the window application.

Windows may be flush with the facade using figures 35–45. This is a guide only. All windows are different and sufficient provision for moisture management must be made, see Clause 2.5 of the ExoTec facade panel and fixing system Technical Specification.

**STEP 1**
Install HardieWrap™ weather barrier as per the HardieWrap™ technical data sheet and relevant standard and code

**STEP 2**
Cut HardieWrap™ weather barrier around window opening and above window opening to the window head flashing upstand height

**STEP 3**
Tape HardieWrap™ weather barrier continuously to subframe using flexible tape, refer to flexible tape manufacturer for suitability and install instructions

**STEP 4**
Install window sill

**STEP 5**
Install window to manufacturer’s specifications

**STEP 6**
Install head flashing above window

**STEP 7**
Fix flexible flashing tape continuously to the side of the window and HardieWrap™ weather barrier from the bottom of the window head flashing upstand

**STEP 8**
Cut tape at window height and fold flap over to seal end of window head flashing

**STEP 9**
Seal around head flashing corner with flexible tape

**FIGURE 35 INSTALLATION OF HARDIEWRAP™ WEATHER BARRIER**

**FIGURE 36 INSTALLATION OF WINDOW**

**FIGURE 37 HEAD INSTALLATION OF WINDOW**

**FIGURE 38 INSTALLATION OF WINDOW**
**EXOTECH FACADE PANEL AND FIXING SYSTEM INSTALLATION MANUAL**

**FIGURE 39 PREPARATION AROUND WINDOW**

**FIGURE 40 INSTALLATION OF TOP HATS AROUND WINDOW**

**FIGURE 41 INSTALLATION OF J SECTION**

**FIGURE 42 INSTALLATION OF SNAP ON STRIP**

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**STEP 10**
Fix HardieWrap™ weather barrier flap over window head flashing.

**STEP 11**
Install next layer of HardieWrap™ weather barrier. Provide minimum 150mm overlap.

**STEP 12**
Fix intermediate JH top hat 50mm from side of window.

**STEP 13**
Fix ExoTec top hats hard against intermediate JH top hat above and below window.

**STEP 14**
Create Min 1mm thick corrosion resistant metal J profile section. Cut to suit height of window. Apply continuous bead of sealant between the inside face of the J profile section and side of the window. Fix the J section to the substructure. A steel fabricator can assist in creating the metal profile.

**STEP 15**
Apply double sided tape or sealant bead to outward facing flange.

**STEP 16**
Cut ExoTec gasket snap on strip around window and sill.

**STEP 17**
Apply sealant between window and ExoTec gasket snap on strip.

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**FIGURE 43**
Flexible tape

**FIGURE 44**
J profile section

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**TABLE 1**

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate JH top hat</td>
<td>60 mm</td>
</tr>
<tr>
<td>JH top hat</td>
<td>34 mm</td>
</tr>
<tr>
<td>Flexible tape</td>
<td>25 mm</td>
</tr>
</tbody>
</table>
**STEP 18**
Install continuous metal L flashing sealed to underside of window sill

**STEP 19**
Install backing rod under window sill. Apply continuous bead of sealant, refer to sealant section of this manual. Install ExoTec facade panel under window sill

**STEP 20**
Turn-up back of flexible tape before butting to window trim.

**STEP 21**
Install ExoTec facade panels

Figure 43 Overview Cutaway Section of Window

Figure 44 Window Jamb Detail

Figure 45 Cross Section of Window
**GENERAL**

ExoTec facade panels will readily accept a wide variety of applied finishes, including site-applied textures and factory finishes.

For site-applied finishes (acrylic coatings), follow the paint manufacturer’s recommended advice to adequately cover the sanded smooth James Hardie base coat filler applied over the epoxy filled concealed fixings (refer to fixing section).

In order to seal cut edges or sanded patches two coats of an appropriate primer should be applied at the time of cutting or sanding e.g. Dulux AcraPrime 501/1 (water based).

The face and edges of the panels must be coated in accordance with the paint manufacturer’s recommendations.

For further information contact the service centre of the relevant paint company, as follows:

- Dulux Trade Customer Service on 13 23 77
- Taubmans Customer Service on 13 16 86
- Wattyl Hotline on 13 21 01

Polyurethane paints are not suitable as a site-applied finish but can be factory coated prior to installation. Pre-finished panels are generally installed using exposed head fasteners.

Some environments require special coatings. Painting selection and specifications are dependant on the paint chosen. Refer to the paint manufacturer.

Fixing tiles onto ExoTec facade panels is not recommended.

**PANELS EXPOSED TO DIRECT SUNLIGHT**

The face or rear of the panels must not be exposed to direct sunlight for any period greater than three months. The face must be over-coated as recommended by the paint companies mentioned above. However, if the rear clear sealer is exposed to direct sunlight by its application, e.g. fascias, plantrooms, etc., then the clear sealer must be coated with a minimum of two coats of an exterior grade acrylic, pigmented white, with a minimum of 10 years warranty, by one of the paint companies previously mentioned.

It is the responsibility of the specifier to identify other weather related risks with any particular building design.

**NOTE**

Refer to the previously mentioned paint companies for suitable rear face surface preparation on the ExoTec facade panels.
It is the responsibility of the specifier to determine normal maintenance requirements.

The extent and nature of maintenance will depend on the geographical location and exposure of the building. As a guide, it is recommended that basic normal maintenance tasks shall include but not be limited to:

- In coastal areas, a six monthly washdown of expressed joints must be done as per Clause 2.4. in the current ExoTec facade panel and fixing system Technical Specification.

- Annual checks and maintenance for the exposed sealant (3mm fillet at horizontal joints, filled vertical and horizontal joints) referenced in Clauses 6.2, 6.3, 6.4, 6.5, 6.6, 7.1, 9, 11.1 and 11.2, must be done as required by the sealant manufacturer, refer to the current ExoTec facade panel and fixing system Technical Specification.

- Maintenance to painted surfaces must be carried in accordance with the paint manufacturer’s specification, refer to section 14 in this manual.

- As required, clear debris build up against ExoTec facade panels.

- Maintain sealant as per manufacturer recommendations, to ensure weather seal.

- Clean out gutters, blocked pipes and overflows as required.
16 WARRANTY

ExoTec® facade panel and fixing system

10 YEAR WARRANTY

January 2012

James Hardie Australia Pty Limited ("James Hardie") warrants to the first purchaser of ExoTec® facade panel (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 sheet.

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 go to or contact Ask James Hardie™ on 13 11 03, visit www.jameshardie.com.au or www.accel.com.au, information or to make a claim under this warranty please Ask James Hardie™ on 13 11 03, visit www.jameshardie.com.au or www.accel.com.au, or write to James Hardie at:

PO Box 70 Parramatta NSW 2124
10 Colquhoun Street Rosehill NSW 2142
james hardie Australia Pty Ltd
email James Hardie via our website or write to James Hardie at:

10 Colquhoun Street Rosehill NSW 2142
PO Box 70 Parramatta NSW 2124

james hardie Australia Pty Ltd

(b) 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 mould, mildew, fungi, bacteria, or any organism on any Product surface or Product (whether on the exposed or unexposed surfaces);

(h) In the circumstances where the Australian Consumer Law does not apply in respect of the purchase of the Product, all warranties, conditions, liabilities and obligations other than those specified in this warranty are excluded to the fullest extent allowed by law;

(i) If meeting a claim under this warranty involves re-coating of Product, there may be slight colour 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 colour differences;

(j) In the circumstances where the Australian Consumer Law does not apply in respect of the purchase of the Product and therefore to this warranty, all expenses incurred as a result of claiming under this warranty are to be borne by the claimant.

(ka) If meeting a claim under this warranty involves re-coating of Product, there may be slight colour 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 colour differences;

(ka) In the circumstances where the Australian Consumer Law does not apply in respect of the purchase of the Product and therefore to this warranty, all expenses incurred as a result of claiming under this warranty are to be borne by the claimant.

(l) In the circumstances where the Australian Consumer Law does apply in respect of the purchase of the Product and therefore to this warranty, if James Hardie accepts or it is determined by James Hardie that the claimant has a valid claim under this warranty, James Hardie will bear the claimant's reasonable costs of claiming under this warranty. The claimant is responsible for all other costs of claiming under this warranty. All claims for such costs are to be notified to James Hardie at the address outlined below within 21 days from when the claimant first makes a claim under this warranty.

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 (d), (e), (g) and (h) above. 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 Building Code of Australia, regulations and standards.

IMPORTANT NOTE

If you acquire goods manufactured by James Hardie as a consumer according to the Australian Consumer Law, our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. Any rights a consumer may have under this warranty are in addition to other rights and remedies of a consumer under a law in relation to the goods to which this warranty relates. Nothing in this document shall exclude or modify any legal rights a customer may have under the Australian Consumer Law or otherwise which cannot be excluded or modified at law. Contact details if you wish to make a claim under this warranty: For more information or to make a claim under this warranty please Ask James Hardie™ on 13 11 03, visit www.jameshardie.com.au or www.accel.com.au, email James Hardie via our website or write to James Hardie at: