

# TECHNICAL SPECIFICATION



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## WE VALUE YOUR FEEDBACK

To continue with the development of our products and systems, we value your input. Please send any suggestions, including your name, contact details, and relevant sketches to:

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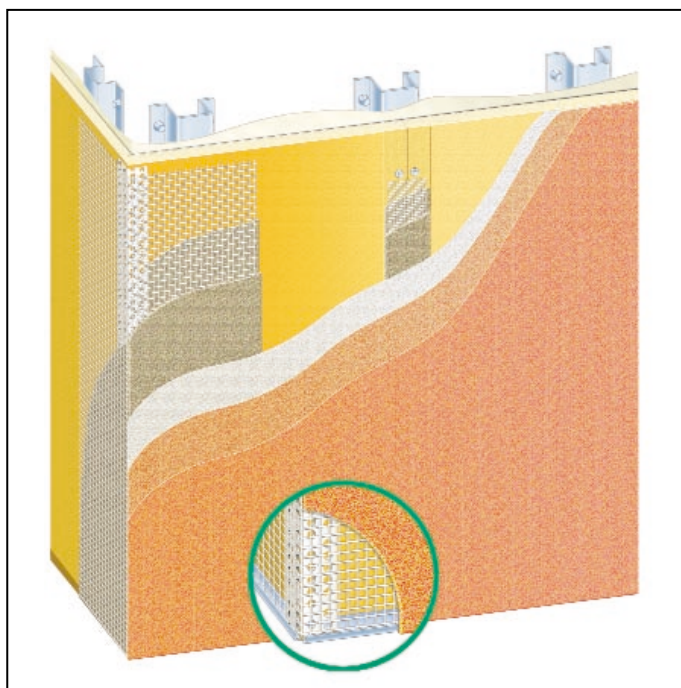
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# 1 INTRODUCTION

## 1.1 APPLICATION

The James Hardie D3-ComTex® facade system is designed for commercial applications. It provides an economical method of constructing a monolithic texture-coated facade without the weight disadvantage associated with masonry. The system has three components:

- D3-ComTex panels
- ComTex accessories
- Texture coating system - supplied by others  
(See Section 11, Components.)



**FIGURE 1 TYPICAL JOINTING AND COATING SYSTEM**

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

### 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 if you need more information, visit [www.jameshardie.com.au](http://www.jameshardie.com.au) or Ask James Hardie™ on 13 11 03.

### Component 1 - D3-ComTex panels

Component 1 is the specifically-designed 9.0mm thick D3-ComTex panel. These panels are recessed along their two longer sides to facilitate the construction of concealed joints. The panels can be fixed to steel or timber framing and provide a strong, impact-resistant substrate for Component 3, the texture system.

These panels are supplied pre-primed, ready for the application of the high-build acrylic texture system.

### Component 2 - ComTex accessories

The following accessories are required for the successful installation of the D3-ComTex facade system:

- ComTex top hat
- Intermediate JH top hat
- ComTex starter bead
- ComTex angle bead

For further details see Section 11, Components.

### Component 3 - texture system

D3-ComTex panels are site finished with a specialised high-build acrylic texture coating system that incorporates both reinforced jointing and texture coating. Figure 1 illustrates a typical jointing and coating system.

The coating finish is available in a variety of textures, colours and gloss levels.

Both the jointing and coating system must be from the same manufacturer, and must form a complete system that is recommended by that manufacturer for application over D3-ComTex panels. This will ensure the final result is covered by the texture coat manufacturer's system warranties. We recommend that you contact the manufacturers to confirm these details before the job commences.

Coating systems applied to the D3-ComTex panels must be sufficiently flexible to accommodate stresses across sheet joints. The jointing and coating systems tested and recommended by James Hardie for use with D3-ComTex panels are Dulux AcraTex and Taubmans Armawall.

Where texture coating is less than 2mm thick, a skimcoat will need to be applied first.

If D3-ComTex panels have been left uncoated for a considerable time, contact the texture coat manufacturer for advice on suitability of texture coat.

#### NOTE

In areas exposed to marine salt spray, James Hardie recommends that texture coatings be applied as soon as possible after sheet fixing to prevent salt build-up that could lead to fastener corrosion. For information on texture coats for use in marine environments, contact the texture coat manufacturer.

The texture system must be applied by an applicator approved and trained by the texture coat manufacturer. Both Dulux and Taubmans have recommended applicators operating in most areas.

The texture coating manufacturer will be responsible for providing the warranty for the coating and sheet joints. James Hardie will warrant only the D3-ComTex panel component of the system. For terms and conditions of warranty, refer to Section 11.

For further information on suitable textured coating systems, please contact:

#### Dulux Customer Service

Toll free: 13 23 77

Fax: 1800 800 864

#### Taubmans Customer Service Centre

Toll Free 13 16 86

Fax 1800 676 746

## 1.2 FACTORS TO BE CONSIDERED

The D3-ComTex facade system is designed to provide a monolithic finish. The success of the system relies on a number of factors outside the control of James Hardie. We recommend that you work closely with one of the texture coat manufacturers and trained applicators, even before you specify or install the panels. Seeking the early advice of the texture coat manufacturer will ensure you select the most appropriate product for use with D3-ComTex panels. Involving the applicators early will help you achieve your particular texture coat requirements.

To get the best possible finish we recommend the following:

#### A straight frame:

The final finish depends on the straightness of the frame. The frame can be checked and straightened if it is out of tolerance. Refer to Clause 2.2.1 for the suggested frame straightness tolerances.

#### A minimum 2mm thick texture coat:

A high-build texture coat will help conceal joints. (See 1.3, Levels of Finish).

#### A low gloss finish:

A low gloss finish will help diffuse glancing light. For specialist advice contact the texture coat manufacturer.

#### Use of light coloured paints:

Avoid dark coloured coatings. For more information on levels of finish, refer to Clause 1.3.

## 1.3 LEVELS OF FINISH

Glancing light will result in some joint visibility. This is common in all monolithic texture coated facade systems. The extent of joint visibility is highly dependent on the quality of workmanship and the type of texture finish selected.

Higher build texture systems will give you the best finish. Vertical scratch coatings are best for disguising vertical joints. A trowel-on Tuscany finish gives a good smooth finish and, when applied well, can give an excellent quality finish. While high-build acrylic roll-on finishes are also acceptable, they are susceptible to joint show-through. When using these acrylic roll-on coatings, we recommend you use skimcoats under the applied texture to achieve a smooth monolithic finish.

In all cases, you must use the approved applicators and correct application techniques recommended by your chosen texture coating company.

The D3-ComTex panels must be texture coated within 90 days of installation.

Refer to your Dulux AcraTex or Taubmans representative for all texture coating advice.

James Hardie does not recommend tiling in an external application.

#### NOTE

The texture coat colour applied to the D3-ComTex panels, must have a Light Reflective Value (LRV) greater than 40%. Refer to the texture coat manufacturer for the coating's LRV.

## 1.4 FINISHES

To ensure the durability of James Hardie external cladding products the exterior surface **must** be finished with a suitable texture system in accordance with the coating manufacturer's written recommendations for fibre cement substrates.

# 2 FRAMING

## 2.1 GENERAL

James Hardie recommends that D3-ComTex panels be fixed to steel top hats. (See Clause 2.2). D3-ComTex panels may also be fixed to steel studs, (see Section 7), or to timber studs, (see Section 8).

## 2.2 TOP HAT FRAMING

### 2.2.1 Top Hat Sections

The normal method of fixing D3-ComTex panels is to use top hat sections as a subframe. Top hat sections are fixed vertically to the supporting structure.

A steel frame with a base metal thickness between 0.55mm and 1.6mm (BMT) must be used over a structural steel truss or girt because:

- 1. Fixing panels to trusses or girts is too rigid.
- 2. The fixing of the top hats can be included in the subcontract for panel fixing.
- 3. The panel fixer can pack the top hats to achieve a true plane, avoiding disputes regarding the regularity of the structural steel. A suggested tolerance is a maximum of 4mm in 3000mm.
- 4. Panels can be fixed quickly to the subframe using screws which require no pre-drilling of the steel. (See Section 5).

### 2.2.2 Top hat layout

#### 2.2.2.1 Straight facades

Typical framing is shown in Figure 2.  
A light gauge metal angle (typically 0.75mm BMT) must be fixed along the top and bottom of the top hats to provide intermediate fixing points for the panel along the horizontal edges. (See Figure 2).

#### 2.2.2.2 Curved facades

The D3-ComTex facade system can be used to construct curved facades.

Curving vertically oriented D3-ComTex panels generally requires two intermediate top hats per sheet.

To ensure a smooth appearance, the frame supporting the panels must be fixed to a true curve and be spaced at 300mm for curves less than 5m radius and 400mm for curves with a radius of 5-10m.

Minimum radii of curvature are shown in Table 1.

TABLE 1

MINIMUM RADII OF CURVATURE		
DIRECTION OF CURVATURE	CONVEX CURVATURE	CONCAVE CURVATURE
Across the panel	5.5m	7.0m
Along the length of the panel	4.0m	5.0m

### 2.2.3 Top hat spanning capacity

The spanning capacity of the 75 x 35 x 1.15mm ComTex top hat and the 50 x 35 x 1.15mm Intermediate JH top hat sections is shown in Table 2. The spacing of the top hats must be selected in conjunction with Table 3 in Section 5.2

The maximum cantilever distance of the top hats is one quarter of the single span shown in Table 2.

The maximum spacing of the ComTex top hats and Intermediate JH top hats must be as shown in Table 2. Requirements for fixing them to the structure are to be specified by the project engineers.

## 2.3 COASTAL AREAS

In coastal areas located within 1km of the shoreline or large expanses of salt water (eg. Port Phillip Bay, Sydney Harbour east of the Spit and Harbour Bridges, Swan River west of the Narrows Bridge), the facade **must be washed down twice a year**. On un-protected walls rain will perform this washdown, but where walls are protected by soffits above, the washdown twice per year is a maintenance requirement.

MAXIMUM SPANS (MM) FOR COMTEX TOP HATS AND INTERMEDIATE JH TOP HATS											
SPAN TYPE	TOP HAT SPACING (mm)	ULTIMATE STRENGTH DESIGN WIND PRESSURE									
		1.0	1.5	2.0	2.5	3.0	3.5	4.0	5.0	6.0	7.0
Single span	300	N/A	N/A	N/A	1430	1330	1270	1210	1120	1060	1010
	400	1680	1470	1330	1240	1160	1110	1060	980	N/A	N/A
	600	1530	1330	1210	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2 span continuous	300	N/A	N/A	N/A	1920	1790	1700	1620	1400	1250	1140
	400	2250	1970	1790	1660	1500	1375	1250	1080	N/A	N/A
	600	2050	1790	1620	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2 span continuous	300	N/A	N/A	N/A	1770	1650	1570	1500	1390	1250	1140
	400	2080	1810	1650	1530	1440	1340	1250	1080	N/A	N/A
	600	1890	1650	1500	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 2  
NOTES

- 1. Design wind pressures to be in accordance with AS1170.2 for ultimate strength design. Spans are based on a maximum deflection = span/240 at serviceability conditions.
- 2. For permissible design pressures, divide the ultimate strength design pressures by 1.5.
- 3. For fastener spacings, see Table 3.

# 3 PANEL INSTALLATION

## 3.1 PANEL LAYOUT

### 3.1.1 Layout for solid facade or fascia

A ComTex facade is formed by arranging the D3-ComTex panels in modules with maximum dimensions of 6m wide x 3m high. Each module is bordered by control joints. For details on control joints, see Clause 4.2.

Control Joints are located a maximum of 6m from an internal corner and a maximum of 3m from an external set corner.

We suggest that each module is formed by placing vertical panels side by side, with half sheets at each end. The cut edges of the half sheets provide the square edge for the control joints. (See Figure 3).

If half sheets are not used, remove the edge recess on the outside edge of each end sheet to provide the square edge needed for the control joint.

### NOTE

James Hardie does not recommend that D3-ComTex panels be laid horizontally for facade applications, because glancing light accentuates the visibility of the horizontal set joints.

Horizontally laid D3-ComTex panels can be used to create a fascia up to 1.2m high. (See Figure 4). Where the height of the fascia exceeds 1.2m, the panels must be arranged vertically.

### 3.1.2 Layout adjacent to openings

Where door and window openings are introduced into the facade, three joint configurations are required: set joints (see Clause 3.2); control joints (see Clause 4.2); and relief joints (see Clause 4.3). These joints are positioned as shown in Figure 5.

## 3.2 PANEL JOINTING

D3-ComTex panels are joined using set joints.

The D3-ComTex panel is manufactured with a recess on the two long sides.

Set joints are constructed between adjoining panels by butting together the recessed edges of the panels.

The recess on the panel edges provides for the site-applied system of reinforcing tape and jointing compounds. (See Figure 6).

### NOTE

Tape and joint system is provided by the coating applicator.

When the panel's recessed edge has been cut away, we recommend you site grind the edge to form a recess 1 to 1.5mm deep x 35mm wide for the joint, before the panel is fixed. This recess may be achieved by using a coarse belt sander or Hitachi Easy Bevel attachment fitted to an angle grinder. Both must have a dust extractor attached. (See Section 9, Safe working practices). The ground recess must be primed before the joint is set.

The technique for panel jointing that results in the best finish is a joint that has not been feathered out beyond the recess.

### NOTE

Set joints must not be made over non-recessed edges as an unsightly ridge will be evident under critical light conditions.

## 3.3 VAPOUR PERMEABLE SARKING

**Installation of vapour permeable sarking is mandatory.**

It is to be installed between the top hats and the supporting structure. Sarking must drain moisture to the flashings.

Refer to the vapour permeable sarking manufacturer for suitability of use. The vapour permeable sarking must be installed in accordance with the AS/NZS 4200.2 'Pliable building membranes and underlays – Installation' and the manufacturer's specifications.

Vapour permeable sarking must have the following properties with AS/NZS4200.1:

Vapour barrier – low or medium

Water barrier – high



# 4 MOVEMENT JOINTS

## 4.1 GENERAL

Movement Joints are required to limit stresses in, or remove stresses from, the cladding. They can be control joints, relief joints, structural joints and construction joints.

## 4.2 CONTROL JOINTS

Control joints are required around the perimeter of the module to allow for differences in thermal expansion between the D3-ComTex panel and the supporting structure. For layout, see Clause 3.1.1.

A control joint is a correctly-designed flexible joint, with a nominal width of 10mm (minimum width 8mm) consisting of sealant, plus bond breaking tape (eg. Tesa 4247).

Sheet edges at control joints must be square cut. Do not texture over the sealant in the control joint.

### 4.2.2 Vertical control joints

The vertical control joint is constructed as shown in Figure 7.

### 4.2.3 Horizontal Control Joints

The horizontal control joint is constructed as shown in Figures 8 and 9. The noggings are cut from ComTex top hats and intermediate JH top hats which are fixed to the flanges of the vertical top hats.

## 4.3 RELIEF JOINTS

Relief joints are needed where stresses in the facade cladding may be unduly high, eg. around windows or doors, or where there are abrupt changes in the dimensions of the structure.

A relief joint is designed to accept a minor degree of movement. (See Figure 10). For layout, see Clause 3.1.2. For further advice, contact Ask James Hardie™ on 13 11 03.

## 4.4 STRUCTURAL JOINTS

Structural joints must be provided when they are required by the structural engineer. They must have total frame separation as shown in Figure 11. Structural joints are also required where two truss ends meet at a connection which allows movement.

## 4.5 CONSTRUCTIONS JOINTS

### 4.5.1 Vertical construction joints

Vertical construction joints are required where a D3-ComTex panel construction intersects with an existing structure. (See Figure 12).

If cement render is applied to the existing masonry wall, do not render hard up against the D3-ComTex panel edge. Leave a 6mm joint between the render and D3-ComTex panel and fill with James Hardie sealant over bond breaker tape.

### 4.5.2 Horizontal construction joints

Horizontal construction Joints are required where upper level D3-ComTex panel construction joins an existing ground floor structure. See base detail alternative 2, Figure 21.

# 5 FIXING

## 5.1 FASTENERS

Fasteners should have a minimum Class 3 finish. If you are not using winged screws, clearance holes for screws must be pre-drilled in the D3-ComTex panel.

Panels may be fixed to ComTex top hats and Intermediate JH top hats using winged self-drilling screws (eg. James Hardie 32mm HardiDrive®).

HardiDrive® screws have a self-embedding head and are driven so that the screw head is just below the surface of the panel.

We recommend you fix from the centre of the panel and work outwards to ensure the panels are hard against the frame to avoid drumminess.

Refer to Section 5.3 on fastener durability.

## 5.2 FASTENER SPACING

Fasteners are spaced, as shown in Table 3, along panel edges and intermediate support framing.

TABLE 3

MINIMUM FASTENER SPACINGS (mm) PANEL PERIMETER AND INTERMEDIATE JH TOP HATS			
DESIGN WIND PRESSURE (ULTIMATE kPa)	MAXIMUM TOP HAT SPACING (MM)		
	600	400	300
1.0 to 2.0	200	200	N/A
2.5 to 3.5	N/A	200	200
4.0	N/A	200	200
5.0	N/A	175	200
6.0	N/A	N/A	200
7.0	N/A	N/A	175

## NOTES

- Design wind pressures to be in accordance with AS1170.2 for ultimate strength design.
- For permissible design pressures, divide the ultimate strength design pressures by 1.5.
- The serviceability deflection has been limited to span/250.

Fasteners must not be closer than 12mm to panel edges or less than 75mm from panel corners. (See Figures 13 and 14).

## 5.3 FASTENER DURABILITY

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 they are to be in contact with to ensure the durability and integrity of assembly.

Contact fastener manufacturers for more information.

## 6 FIRE RATED WALLS

Fire rated systems for an application are selected on the basis of the required Fire Resistance Level (FRL) as set out by the Building Code of Australia (BCA).

Fire rated wall systems are constructed from lightweight steel framing that is lined **on both sides** with one layer of fire resistant plasterboard and one layer of D3-ComTex panel or Villaboard® lining.

See Table 4 for the lining thickness required to achieve the three standard levels of FRL.

**TABLE 4**

REQUIRED LINING THICKNESSES FOR FRL		
REQUIRED FRL	LINING THICKNESS APPLIED TO BOTH SIDES	
	Villaboard® lining (mm)	Fire resistant plasterboard (mm)
-/60/60	6	13
-90/90	6	16
-120/120	9	16

### NOTE

D3-ComTex panel may replace the 6mm and 9mm Villaboard® lining.

The D3-ComTex facade system fire rated wall is constructed by fixing the linings described in Table 4 to top hats. (See Figure 26). Vapour permeable sarking must be installed between the D3-ComTex panel and the fire resistant plasterboard and must lap into the base flashing. (See Figure 27). Fire grade sealant must be used in the control joints between the D3-ComTex panel modules. For fixing information for fire resistant plasterboard and Villaboard® lining, see the James Hardie fire and acoustically rated walls technical literature and Internal lining range Fixing Manual.

## 7 STEEL STUD FRAMING

### 7.1 GENERAL

Instead of using top hat sections, it is possible to create a D3-ComTex facade system using a stud frame, fabricated from 0.55mm and 1.6mm BMT steel. This method suits smaller buildings or infill walls. (See Figure 28).

The stud frame must be engineer-designed to meet relevant building regulations and standards, and the requirements of this manual.

### 7.2 STUD FRAMING

#### 7.2.1 Spacing

Studs are spaced at 600, 400 or 300mm centres to suit design wind loads, see Table 2.

#### 7.2.2 Stud sizing

To effectively join D3-ComTex panels on studs, the minimum flange width is 38mm. If studs with 35mm wide flanges are used, back to back studs are required behind the panel vertical joint. (See Figure 29).

Alternatively an angle support may be fixed to the back of the stud. (See Figure 30).

### 7.3 PANEL INSTALLATION

#### 7.3.1 General

For layout of D3-ComTex panels and location of set and movement joints, see Section 3.

#### 7.3.2 Sarking

Vapour permeable sarking must be installed behind the D3-ComTex panels on stud framed walls. (See Clause 3.3).

### 7.4 MOVEMENT JOINTS

#### 7.4.1 Layout

For location of control and relief joints, see Clause 3.1.

#### 7.4.2 Control joints

##### 7.4.2.1 General

For general information on control joints, see Clause 4.2.

##### 7.4.2.2 Vertical control joints

Vertical control Joints are constructed as shown in Figure 31.

##### 7.4.2.3 Horizontal control joints

Horizontal control joints are constructed as shown in Figure 32.

In two storey construction where movement is anticipated at floor level, an additional horizontal control joint may be necessary.

The appearance of this joint may be enhanced by covering it with one of the preformed architectural shapes which are supplied by a number of manufacturers. (See Figure 33).

Standard architectural shapes are available, or they can also be produced to suit your requirements.

The architectural shape should be fully bonded and sealed to the top panel only using an adhesive recommended by the supplier. Generally, the components should be coated with a rigid polyurethane or cementitious material.

#### 7.4.3 Relief joint

To determine if you need to install Relief joints, see Clause 4.3.

For detail of relief joints, see Figure 34.

# 8 TIMBER STUD FRAMING

## 7.5 FIXINGS

For fixing to steel studs 0.55mm to 0.75mm BMT, use Buildex FibreTEKS 9-16 x 30mm screws. For fixing to steel studs 0.80mm to 1.6mm BMT, use 32mm Class 3 (grey) HardiDrive® screws. Drive the heads of both screws just below the surface of the panel.

## 7.6 DETAILS

### 7.6.1 Corners

#### 7.6.1.1 General

For location of control joints adjacent to external and internal corners, see Clause 3.1.1.

#### 7.6.1.2 External corners

For setting external corners, see Clause 12.2.

#### 7.6.1.3 Internal corners

The recommended method of finishing internal corners is to use a sealant joint as shown in Figure 35.

### 7.6.2 Slab joints

#### 7.6.2.1 Head

Where the facade forms a junction with an exposed slab, the detail must provide for creep deflection in the slab. A design which allows for this deflection is illustrated in Figure 36.

#### 7.6.2.2 Base

This junction can be treated in a number of ways, three of which are illustrated in Figures 37, 38 and 39. Figure 39 shows a guide to the termite treatment needed for a textured slab edge. For full specification, refer to a termite control system manufacturer.

Where the facade finishes inside the slab edge, it is essential to provide a set down in the slab. (See Figure 38).

### 7.6.3 Fascia/soffit junction

Fascia/soffit junctions can be handled in different ways. One method is shown in Figure 40. See Clause 12.4 for alternative methods.

Whichever method is used, a drip edge or groove must be provided.

### 7.6.4 Windows

The D3-ComTex facade system can be used with a range of window treatments:

1. Windows may be installed flush with the facade, in the shop front style. (See Figure 41).
2. The facade around the window may be enhanced by the application of a preformed section. (See Figure 42).

### 7.6.5 Parapet capping

For general information, see Clause 12.6.

For detail, see Figure 43.

## 7.7 FIRE RATED WALLS

For information on constructing Fire rated walls using D3-ComTex panels, see the James Hardie fire and acoustically rated walls technical literature.

## 8.1 GENERAL

Kiln dried softwood may be used to support D3-ComTex panels. Conventional timber stud frames are suitable, or timber can be used as furring over steel framing.

### NOTE

Timber used for building construction should have the level of durability appropriate to the relevant climate and expected service life conditions; that is, exposure to insect attack or to moisture which could cause decay.

The timber frame must be engineer-designed to meet relevant building regulations and standards and the requirements of this manual.

## 8.2 STUD FRAMING

### 8.2.1 Stud spacing

See Tables 2 and 3 for stud spacing.

### 8.2.2 Stud sizing

To effectively join D3-ComTex panels on studs, the minimum finished face width is 45mm. If 35mm minimum width studs are used, then back to back studs are required behind the vertical panel joints. (See Figure 44).

Alternative detail for panel edge support, see Figure 45.

## 8.3 PANEL INSTALLATION

### 8.3.1 General

For the layout of D3-ComTex panels and location of set and movement joints, see Section 3.

### 8.3.2 Sarking

Vapour permeable sarking must be installed under the D3-ComTex panels on timber stud framed walls. (See Clause 3.3)

## 8.4 MOVEMENT JOINTS

### 8.4.1 Layout

For location of control and relief joints, see Clause 3.1.

### 8.4.2 Control joints

For general information on control joints, see Clause 4.2. A 5mm minimum gap must be provided between the double studs or double noggings at control joints. (See Figure 46).

### 8.4.3 Relief joints

To determine if you need to install relief joints, see Clause 4.3. For detail of relief joints, see Figure 34.

### 8.4.4 Structural joints

For information on structural joints, see Clause 4.4.

A horizontal structural joint is required at the floor level of a timber framed structure to accommodate the anticipated shrinkage in the bearers and joists. (See Figure 47). An engineer must specify the anticipated movement.

For information about how to enhance the appearance of this structural joint with an architectural shape, Ask James Hardie™ on 13 11 03.

### 8.4.5 Construction joints

For information on construction joints, see Clause 4.5.

## 8.5 FIXINGS

### 8.5.1 Fasteners

#### 8.5.1.1 General

Fasteners should have a Class 3 finish to ensure they are protected against corrosion.



#### 8.5.1.2 Hand driven fasteners

Use 40 x 2.8mm galvanised fibre cement nails. Nails should be driven flush with the surface, but not overdriven.

#### 8.5.1.3 Gun driven fasteners

For information on gun nailing refer to Table 5.

#### 8.5.2 Fastener spacing

For fastener spacing, see Clause 5.2.

#### 8.5.3 Coastal areas

For fastener requirements for coastal areas, see Clause 5.3.

### 8.6 DETAILS

For details of external corners, slab junctions, fascia/soffit junctions, windows and parapet capping, see Section 7.6.

TABLE 5

GUN NAILING NOTES				
COIL NAILER		NAILS		
Manufacturer	Name	Manufacturer	Name	Size
Hitachi	VH650 coil nailer	Otter	Galv. coil nail	38mm x 2.5mm dia. 45mm x 2.2mm dia. 50mm x 2.2mm dia.
Paslode	Impulse compact nailer (B20544)	Paslode	Impulse DekFast® 50mm Value Pack (B20561V)	50mm x 2.87mm dia.
			Impulse DekFast® 50mm Handy Pack (B20557)	50mm x 2.87mm dia.
Duo-Fast	KD665A coil nailer (Part No. D40040)	Duo-Fast	C27/32 GD coil nail (D41800)	32mm x 2.7mm dia.
Stanley-Bostitch	N80C coil nailer	Stanley-Bostitch	AC45P250 gal coil nail	45mm x 2.5mm dia.
Senco	SCN-60 coil nailer (fitted with adjustable depth of drive)	Senco	BTN 45 ADB Weatherex Gal and Sencoted	45mm x 2.5mm dia.

#### NOTES

1. Fasteners with equivalent dimensions, (ie head size and shape, shank diameter and length to those above) are acceptable for use.
2. All fasteners are to be galvanised or suitably coated for intended external application.
3. Nailing guns must be fitted with flush drive attachments.
4. Some nailing guns incorporate an adjustable head set to control nail depth (eg Duo-Fast coil nailer and Senco coil nailer.)
5. When gun nailing, apply pressure to the face of the cladding by holding the cladding against the stud to reduce blow out at back of the sheet.

Nail gun manufacturers have supplied the information contained in this table. Should a nail gun model or nail shown in the table not be available, please contact the relevant nail gun manufacturer for advice.

If the nail gun overdrives sheets, contact nail gun manufacturer for advice.

### 8.7 FIRE RATED WALLS

For information on fire rated walls, see James Hardie fire and acoustically rated walls technical literature.

# 9 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 HardiBlade® 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](http://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 WORKING PRACTICES

#### CUTTING OUTDOORS

1. Position cutting station so wind will blow dust away from the user or others in working area.
2. Use one of the following methods based on the required cutting rate:

##### Best

- Score and snap
- Hand guillotine
- Fibreshear

##### Good

- Dust reducing circular saw equipped with HardiBlade® saw blade and HEPA vacuum extraction.

#### CUTTING INDOORS

- Cut only using score and snap, hand guillotine or fibreshears (manual, electric or pneumatic).
- Position cutting station in a well-ventilated area.

#### REBATING/DRILLING/OTHER MACHINING

When rebating, drilling or machining you should always wear a P1 or P2 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" - level cutting methods where feasible.
2. NEVER use a power saw indoors.
3. NEVER use a circular saw blade that does not carry the HardiBlade® logo.
4. NEVER dry sweep - Use wet suppression or HEPA vacuum.
5. NEVER use grinders.
6. ALWAYS follow tool manufacturers' safety recommendations.

P1 or P2 respirators should be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at [www.jameshardie.com.au](http://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.

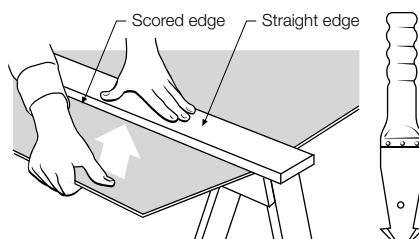
## WORKING INSTRUCTIONS

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

### Score and snap

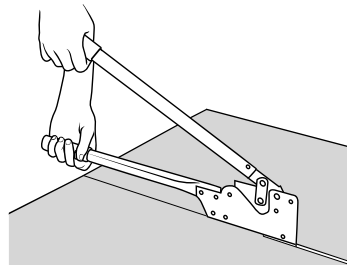
Score and snap is a fast and efficient method of cutting James Hardie building products using James Hardie's special tungsten tipped score and snap knife.

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.



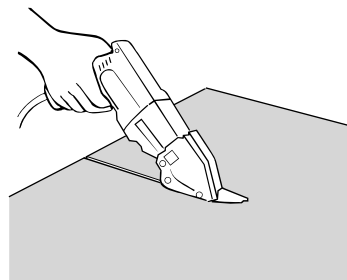
### Hand guillotine

Make guillotine cut on the off-cut side of line to allow for the thickness of the blade.



### Fibreshear

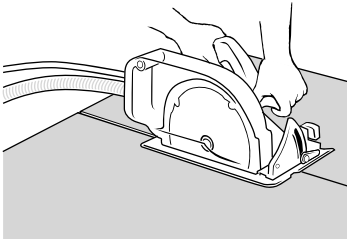
An electrically powered, fast, clean and effortless way of cutting James Hardie building products, especially around curves such as archways. Make fibreshear cut on the 'off-cut' side of the line to allow for the thickness of the shear.



# 10 PRODUCT INFORMATION

## HardiBlade® saw blade

The HardiBlade® saw blade used with a dust-reducing saw and HEPA vacuum extraction allows for fast, clean cutting of James Hardie fibre cement products. A dust-reducing saw uses a dust deflector or a dust collector 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.



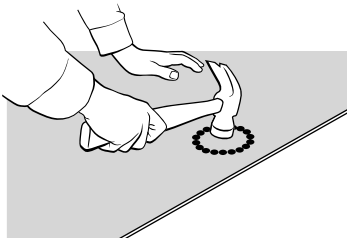
## HOLE-FORMING

### 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 that 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 be 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.

## 10.1 GENERAL

D3-ComTex panel is a cellulose fibre reinforced cement building product. The basic composition is Portland cement, ground sand, cellulose fibre and water.

D3-ComTex panel is manufactured to AS/NZS 2908.2 'Cellulose-Cement Products Part 2: Flat Sheets' (ISO 8336 'Fibre Cement Flat Sheets').

D3-ComTex panel is classified Type A, Category 2 in accordance with AS/NZS 2908.2 'Cellulose-Cement Products'.

For Material Safety Data Sheets (MSDS) visit [www.jameshardie.com.au](http://www.jameshardie.com.au) or Ask James Hardie™ on 13 11 03.

## 10.2 PRODUCT MASS

Based on equilibrium moisture content the approximate mass of D3-ComTex panel is 12.42kg/m².

## 10.3 DURABILITY

### 10.3.1 Resistance to moisture/rotting

D3-ComTex panel has 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)

### 10.3.2 Resistance to fire

D3-ComTex panel is suitable where non-combustible materials are required in accordance with C1.12 of the Building Code of Australia.

James Hardie fibre cement has been tested by CSIRO and is classified as a Group 1 material in accordance with Specification C1.10a of the BCA.

D3-ComTex panel has the following early fire hazard indices (tested to AS 1530 Part 3).

### EARLY FIRE HAZARD INDICES (TESTED TO AS1530) PART 3

Ignition index	0
Flame spread index	0
Heat evolved index	0
Smoke developed index	0 - 1

### 10.3.3 Resistance to termite attack

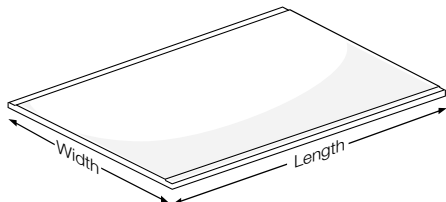
Based on testing completed by CSIRO Division of Forest Products Report Numbers FP349 and FP274 James Hardie fibre cement has demonstrated resistance to termite attack.


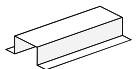
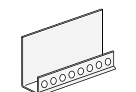
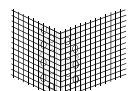
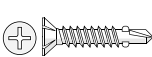

## 10.4 ALPINE REGIONS

In regions subject to freeze/thaw conditions, fibre cement external cladding must be painted. In addition, fibre cement cladding must not be in direct contact with snow and/or ice build up for extended periods, e.g. external walls in alpine regions subject to snow drifts over winter.

Tested for resistance to frost in accordance with AS/NZS2908.2 Clause 8.2.3.

# 11 COMPONENTS

D3-COMTEX PANEL (9mm THICKNESS)			
	Description:		ComTex panel is an external cladding substrate for application of trowelled or roller applied high-build textured weatherproof acrylic finishes. Both long edges are rebated.
	Mass: 12.42kg/m <sup>2</sup>		
	<b>Length (mm):</b>	<b>Width (mm):</b>	<b>Thickness (mm):</b>
	2400 3000	1200 1200	9 9

JAMES HARDIE D3-COMTEX PANEL COMPONENTS		
	<b>ComTex top hat</b> Metal top hat for use behind control joints	75mm wide x 35mm high x 1mm BMT 6000mm length 7200mm length
	<b>JH intermediate top hat</b> Metal top hat for intermediate sheet support	50mm wide x 35mm high x 1mm BMT 6000mm length 7200mm length
	<b>ComTex stainless steel starter strip</b> Stainless steel starter bead provides a straight edge to finish the texture coating for fast, clean cutting of James Hardie fibre cement.	2400mm length 3600mm length
	<b>ComTex PVC external corner</b> Fibreglass mesh reinforced angle bead for setting external corners	150mm x 100mm 2500mm length
	<b>HardiDrive® screw</b> For light gauge steel frames 0.75mm to 1.6mm <b>NOTE:</b> Contact your fastener manufacturer for fasteners with suitable corrosion resistance.	8g x 32mm Selling unit: 1000
	<b>James Hardie joint sealant</b> Fibre cement compatible polyurethane sealant.	Selling unit: 300ml cartridge

## COMPONENTS NOT SUPPLIED BY JAMES HARDIE

<b>Joint setting and texture coating</b>	
<b>Architectural shapes</b>	
<b>Fibre cement nail</b> Galvanised nails for timber	2.8mm x 40mm
<b>Gun nails</b> For fixing to timber	
<b>Buildex FibreZIPS®</b> Screws for fixing to 0.55 to 0.75mm steel frames	9-16 x 30mm
<b>Vapour permeable sarking</b>	

# 12 DETAILS

## 12.1 GENERAL

This section contains general details relating to the use of the D3-ComTex system in external cladding applications. These details are referred throughout this general specification.

## 12.2 CORNERS

### 12.2.1 External corners

A number of methods may be used to form corners.

The preferred method is to set the external corner joint with a ComTex angle bead over square edged sheets. The ComTex angle bead has the attached fibreglass mesh embedded within jointing compound. (See Figure 15).

An alternative method of setting the external corner joint is overlapping joint reinforcing tape within recessed panel edges. (See Figure 16). For prime coating where the recess is site ground see Clause 3.2.

Two layouts for the supporting top hats are shown in Figures 17 and 18.

For location of control joints adjacent to external and internal corners, see Clause 3.1.1.

For setting external corners, see Clause 6.1.1.

### 12.2.2 Internal corners

We recommended that internal corners be set using a sealant joint as shown in Figure 19.

The recommended method of finishing internal corners is to use a sealant joint as shown in Figure 35.

## 12.4 SLAB JUNCTIONS

### 12.4.1 Head

Not used with top hat framing.

### 12.4.2 Base

This junction can be treated in a number of ways. Two possible treatments are illustrated in Figures 20 and 21.

## 12.4 FASCIA/SOFFT JUNCTION

Fascia/soffit junctions can be handled in different ways. Two typical methods are shown in Figures 22 and 23.

Where the external corner fascia to soffit is to be set, see Figure 15 for the preferred method, or Figure 16 for an alternative method.

Whichever method you use, a drip edge or groove must be provided.

## 12.5 WINDOWS

The D3-ComTex facade system allows you to consider a range of alternative window treatments. A detail for a flush shop front style of window is shown. (see Figure 24, 41 and 42).

## 12.6 PARAPET CAPPING

The design of the metal parapet capping used on facade systems is particularly important.

Two rules should be followed:

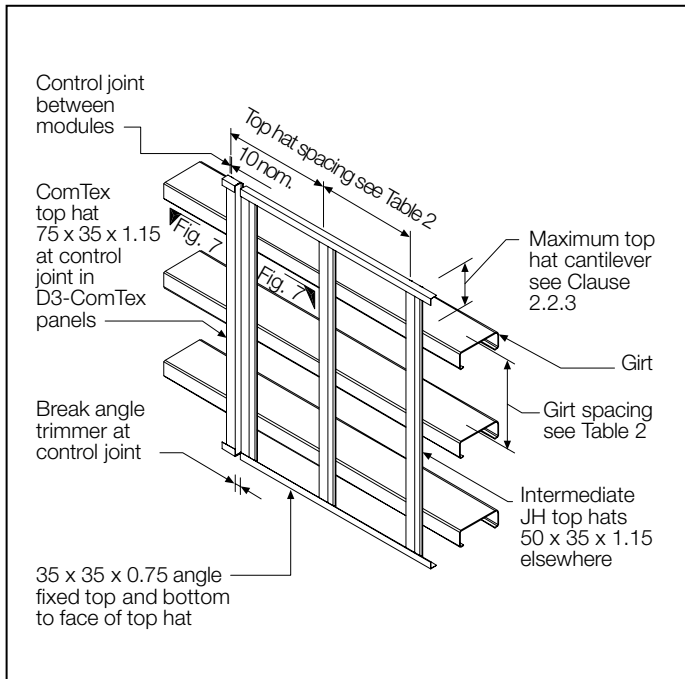
1. Ensure the top of the capping slopes towards the roof.
2. Provide a drip edge at least 30mm out from the facade face. (see Figure 25 and 43).

Where the capping spans a control joint in the fascia, provide a sliding or sleeved joint in the capping at that point.

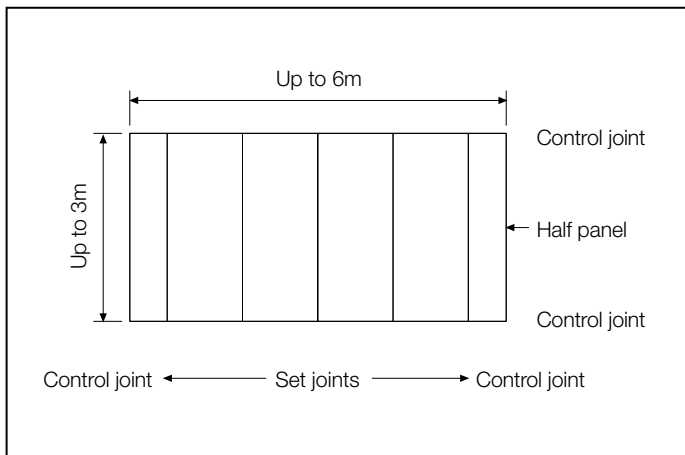
In addition, all joints in capping should be sealed with silicone sealant.

### NOTE

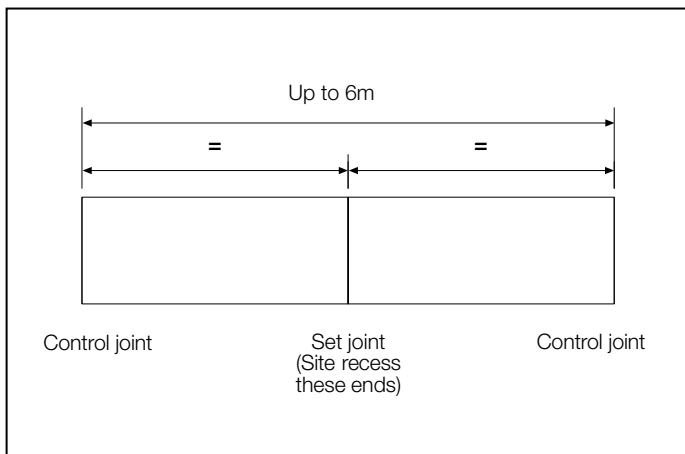
All dimensions shown are in millimetres unless noted otherwise.



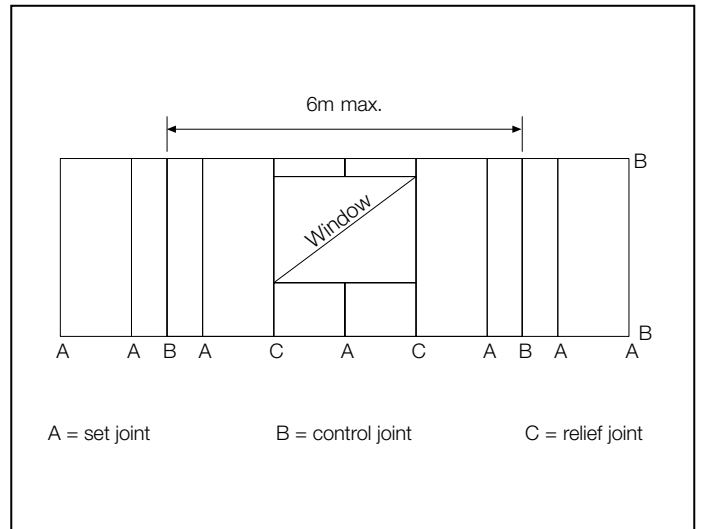
**FIGURE 2 TYPICAL FRAMING - TOP HAT FIXED TO GIRTS**



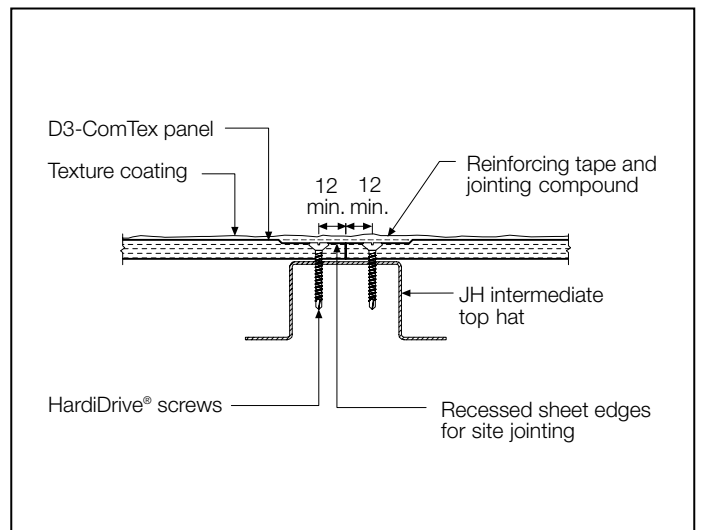
**FIGURE 3 FACADE UP TO 3.0M HIGH**



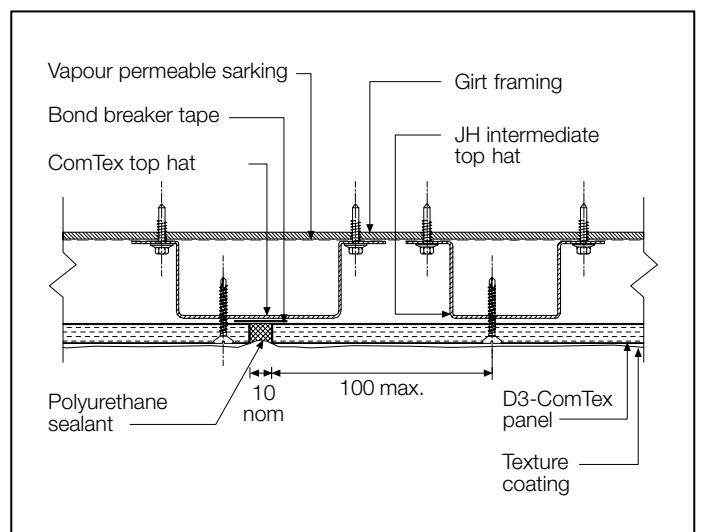
**FIGURE 4 FASCIA UP TO 1.2M HIGH**



**FIGURE 5 SET, CONTROL, RELIEF JOINT PANEL LAYOUT**



**FIGURE 6 SET JOINT**



**FIGURE 7 VERTICAL CONTROL JOINT**



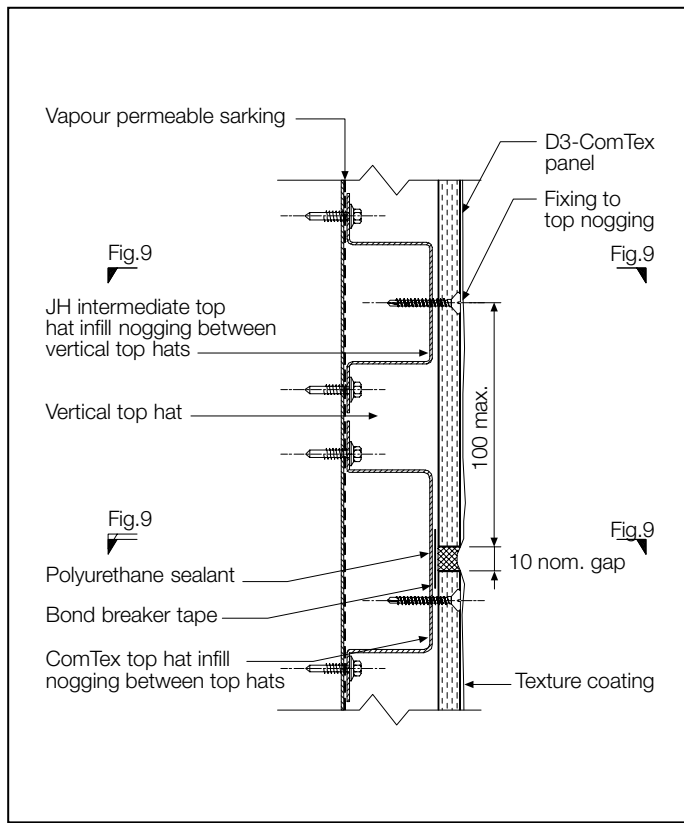


FIGURE 8 HORIZONTAL CONTROL JOINT

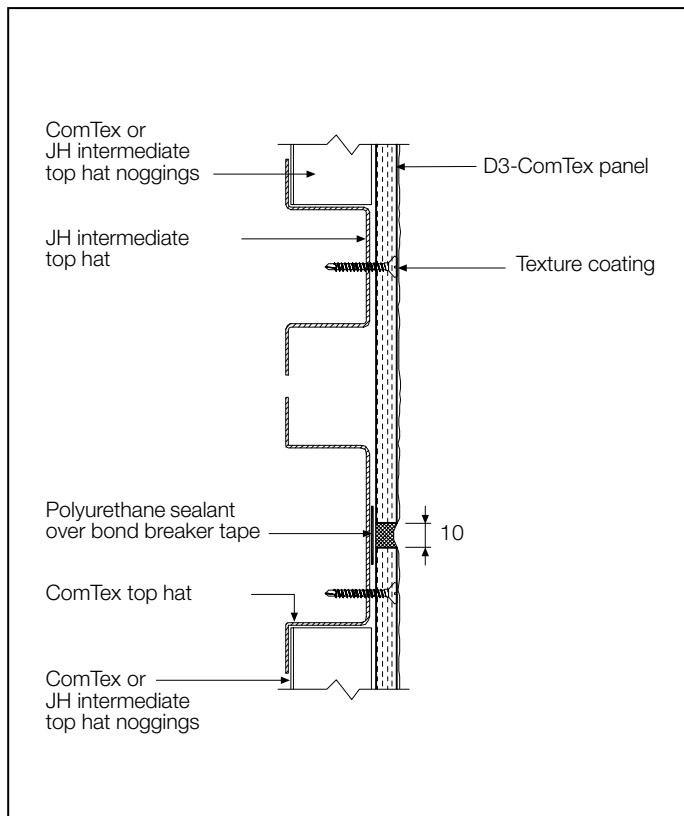


FIGURE 9 VERTICAL CONTROL JOINT ACROSS HORIZONTAL CONTROL JOINT

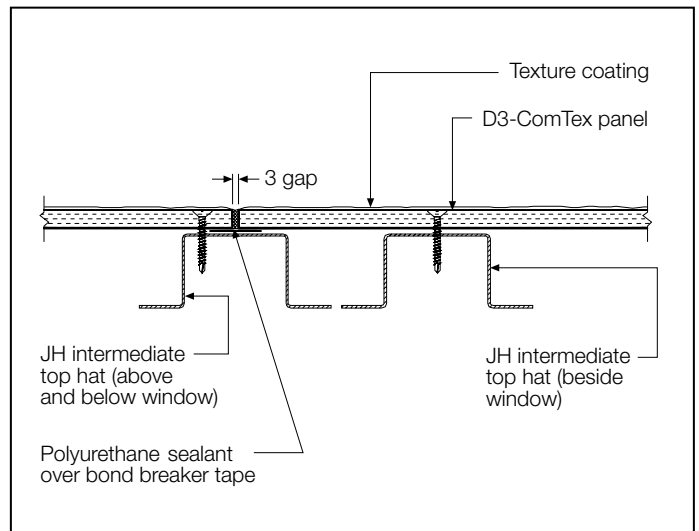


FIGURE 10 VERTICAL RELIEF JOINT

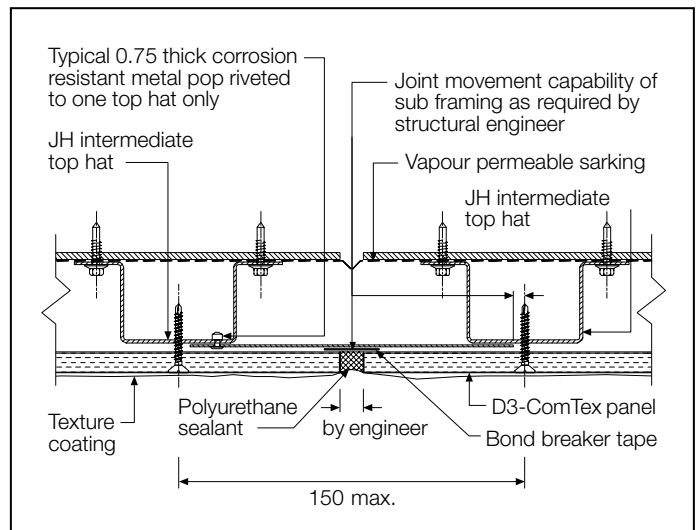


FIGURE 11 VERTICAL STRUCTURAL JOINT

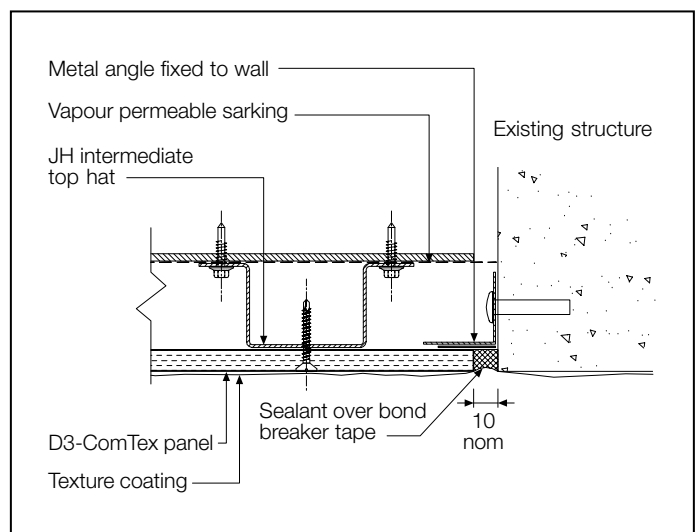


FIGURE 12 VERTICAL CONSTRUCTION JOINT

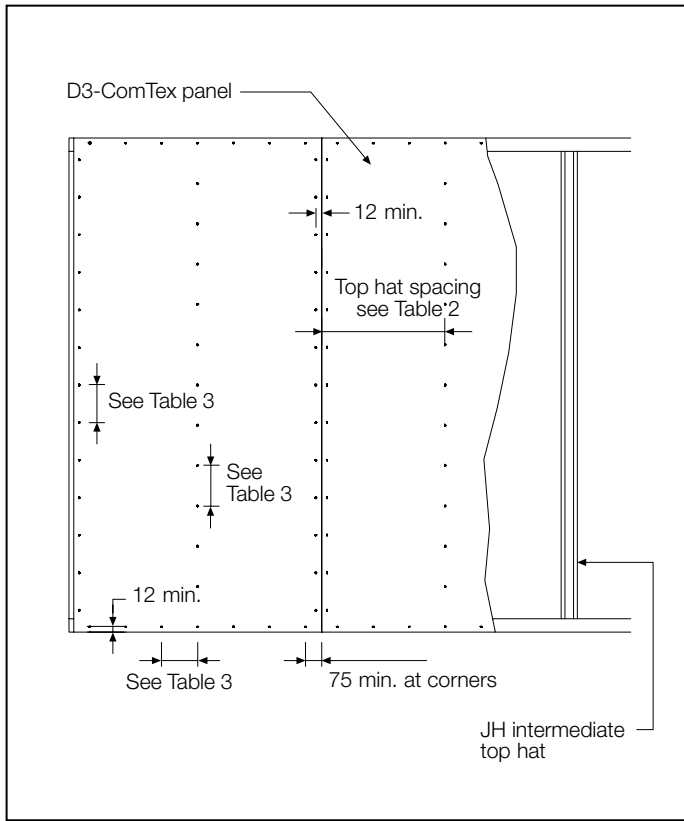


FIGURE 13 VERTICAL FACADE PANEL FIXING

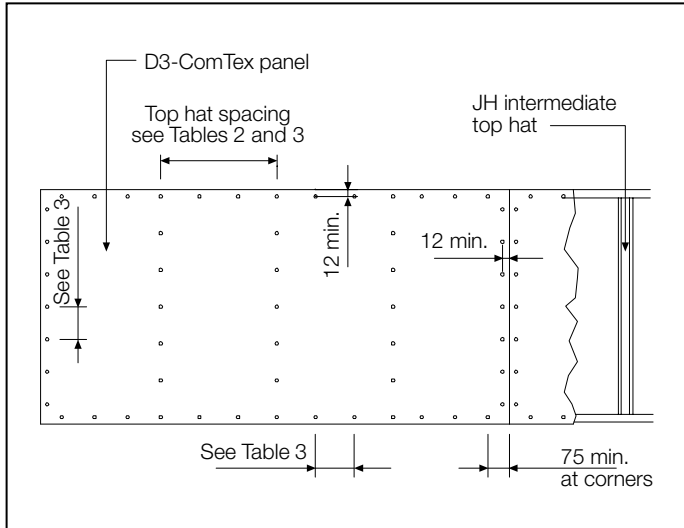


FIGURE 14 HORIZONTAL FASCIA PANEL FIXING

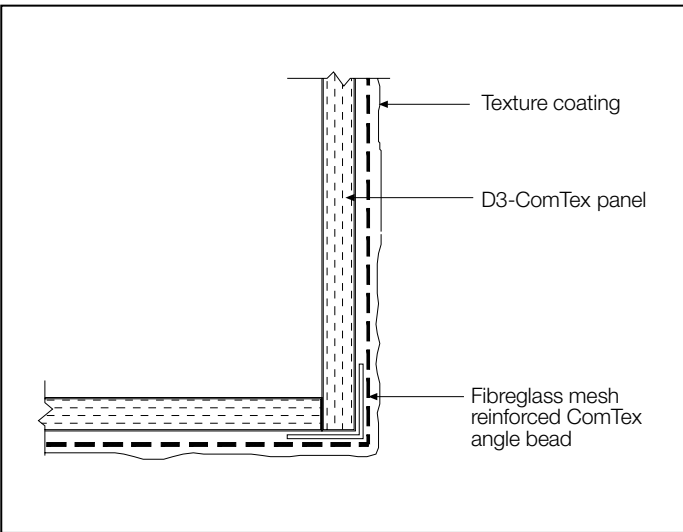


FIGURE 15 PREFERRED SET EXTERNAL CORNER

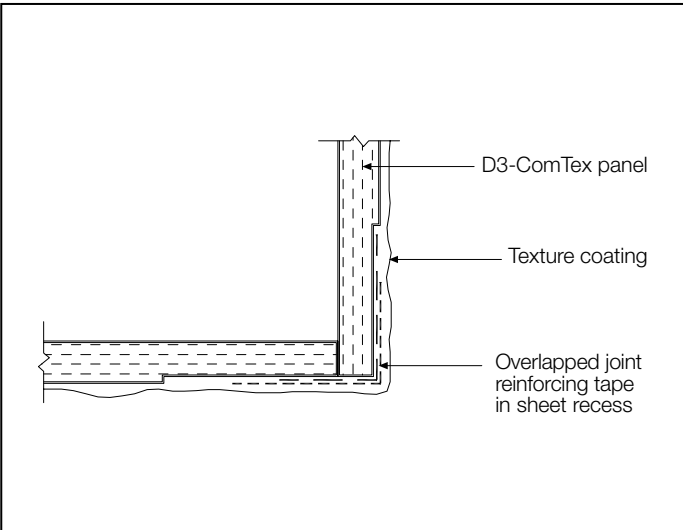


FIGURE 16 ALTERNATIVE SET EXTERNAL CORNER

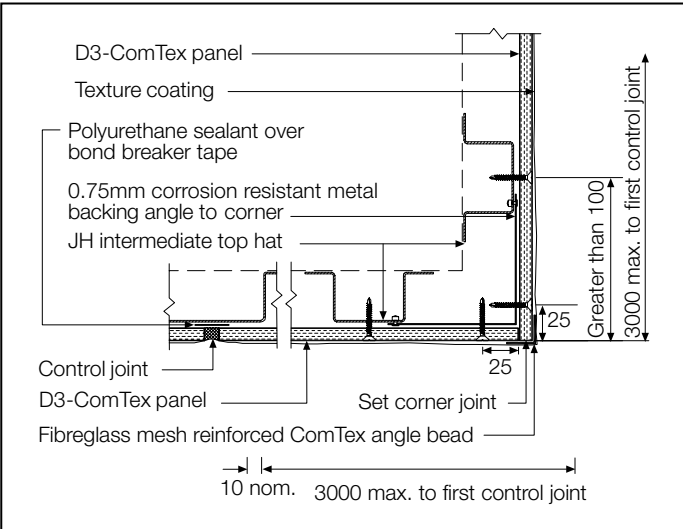


FIGURE 17 EXTERNAL CORNER



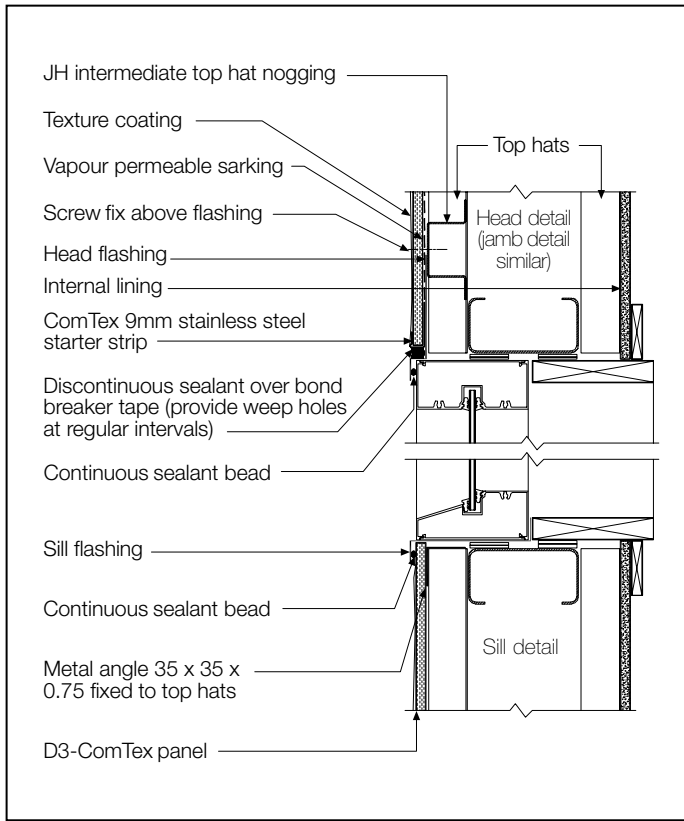


FIGURE 24 SHOP FRONT WINDOW

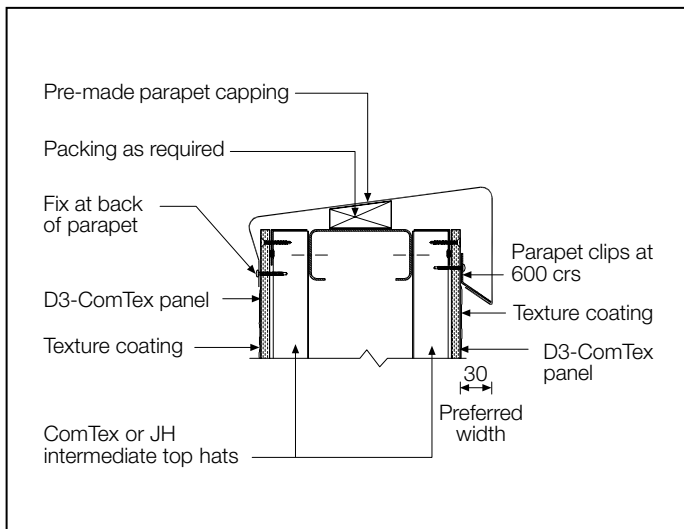


FIGURE 25 PARAPET CAPPING DETAIL

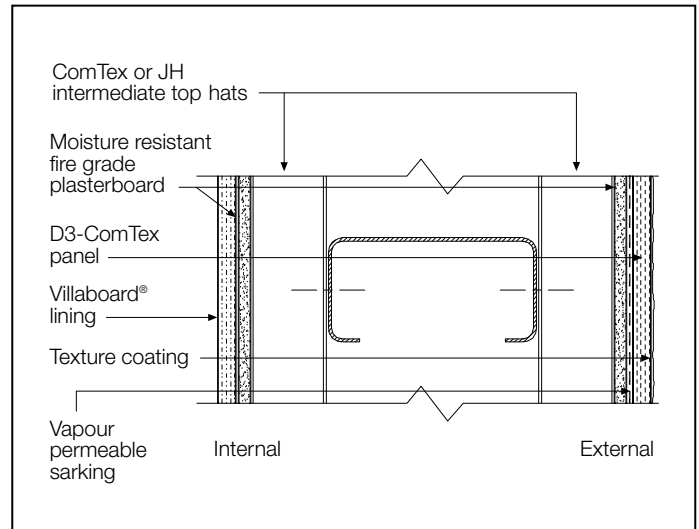


FIGURE 26 FIRE RATED D3-COMTEX FACADE SYSTEM

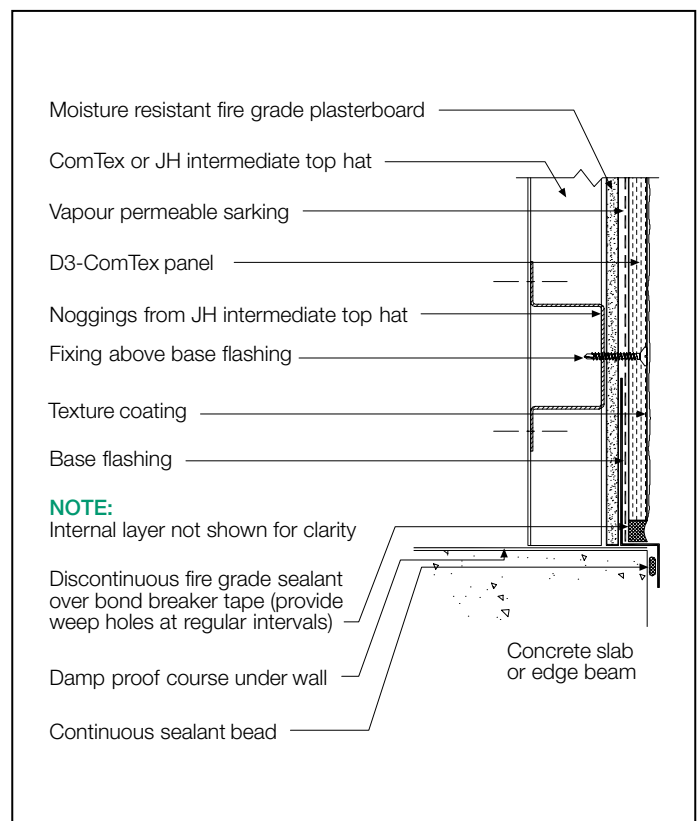


FIGURE 27 FIRE RATED D3-COMTEX FACADE SYSTEM BASE DETAIL

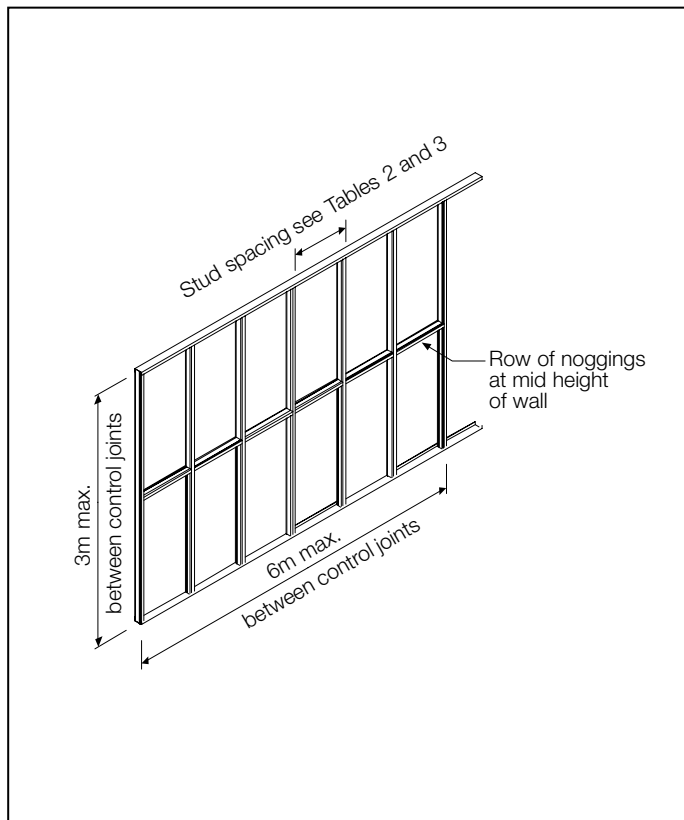


FIGURE 28 TYPICAL STEEL STUD FRAME

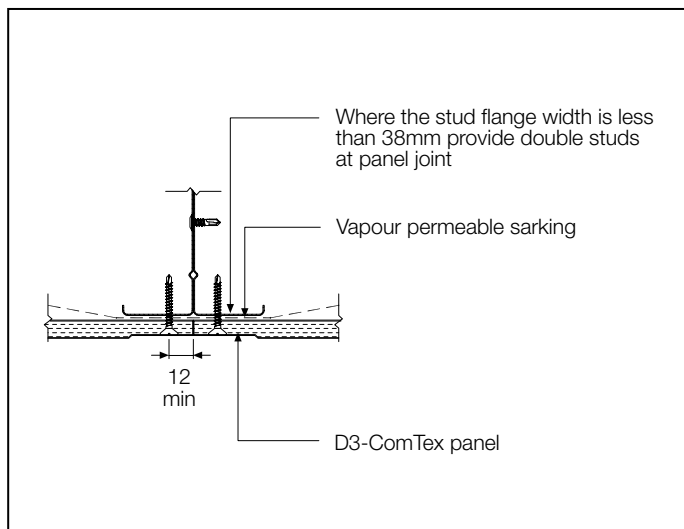


FIGURE 29 DOUBLE STEEL STUDS

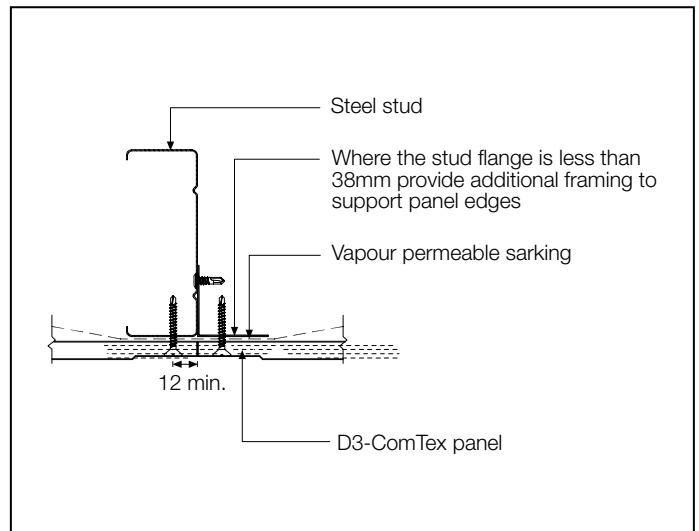


FIGURE 30 ADDITIONAL FRAMING FOR PANEL EDGE SUPPORT

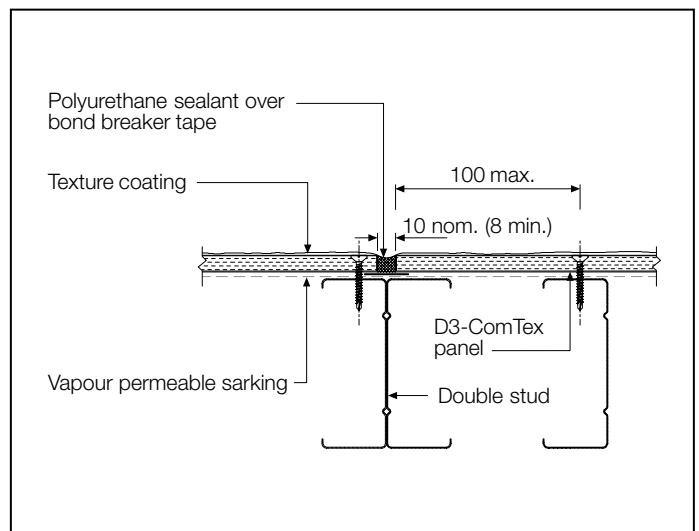


FIGURE 31 VERTICAL CONTROL JOINT

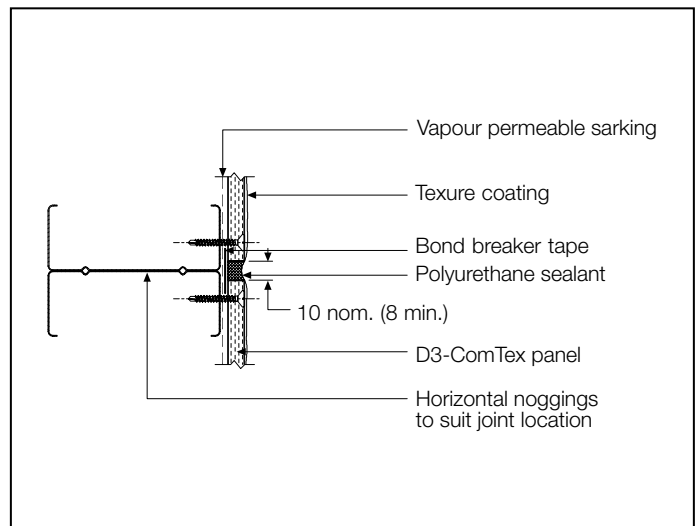


FIGURE 32 DETAIL HORIZONTAL JOINT

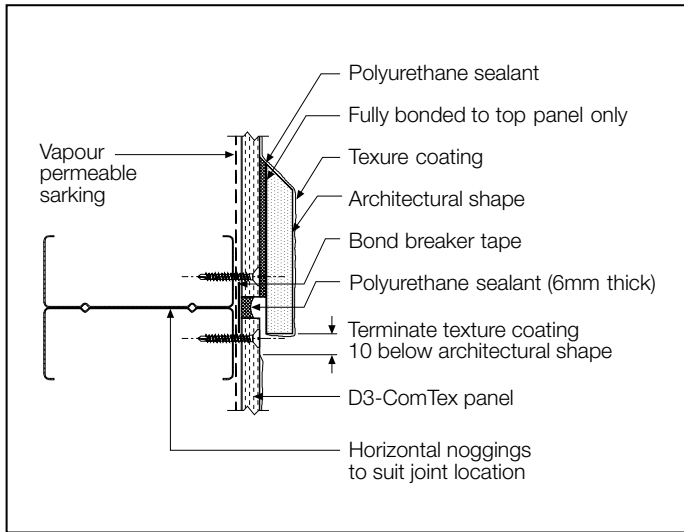


FIGURE 33 OPTIONAL DETAIL - HORIZONTAL JOINT

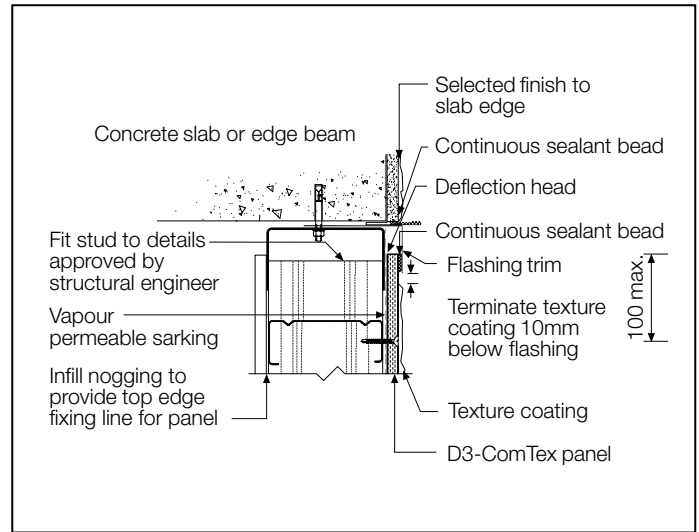


FIGURE 36 DEFLECTION HEAD DETAIL

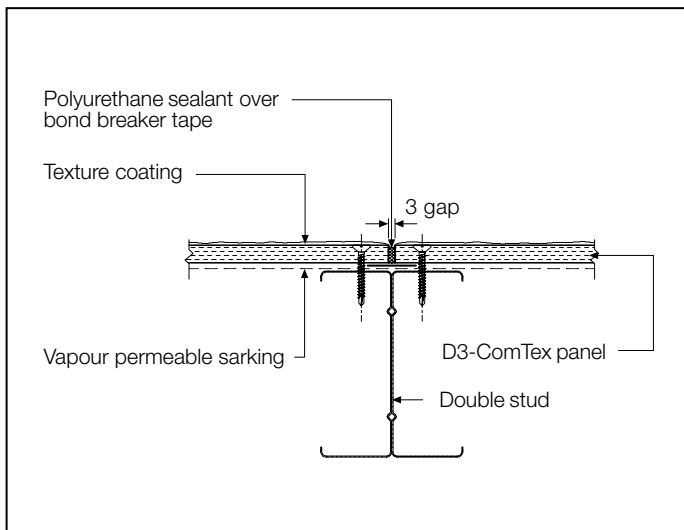


FIGURE 34 VERTICAL RELIEF JOINT - STUD FRAMING

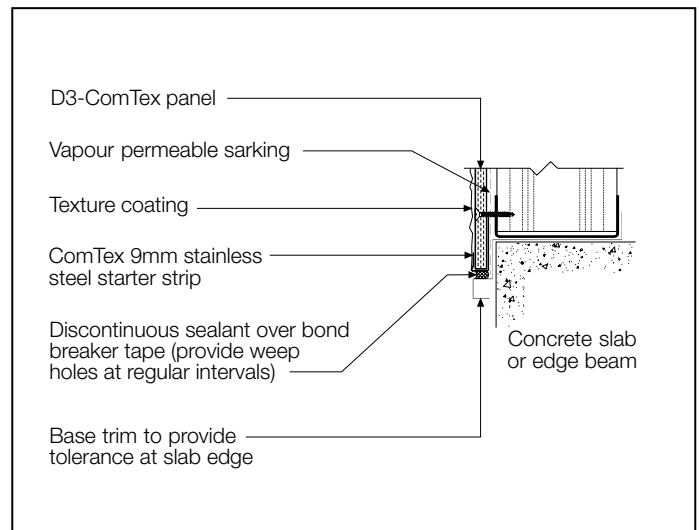


FIGURE 37 BASE DETAIL 1

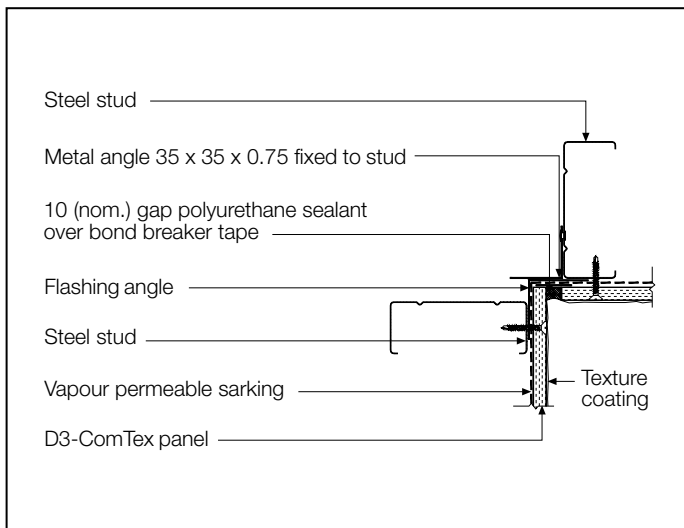


FIGURE 35 INTERNAL CORNER JOINT - STUD FRAME

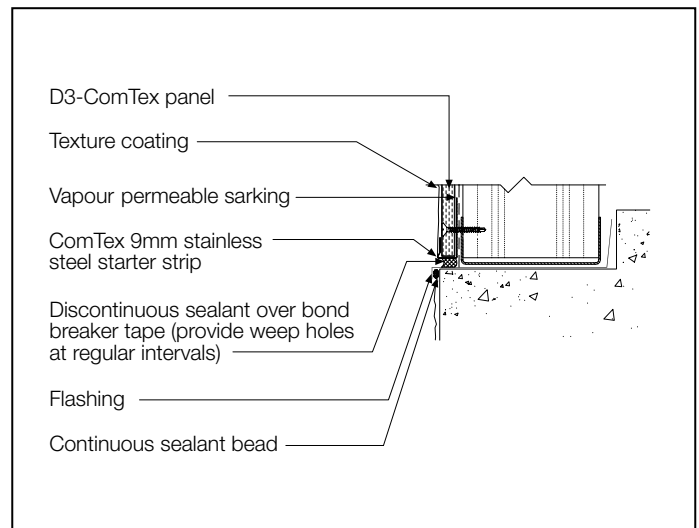


FIGURE 38 BASE DETAIL 2



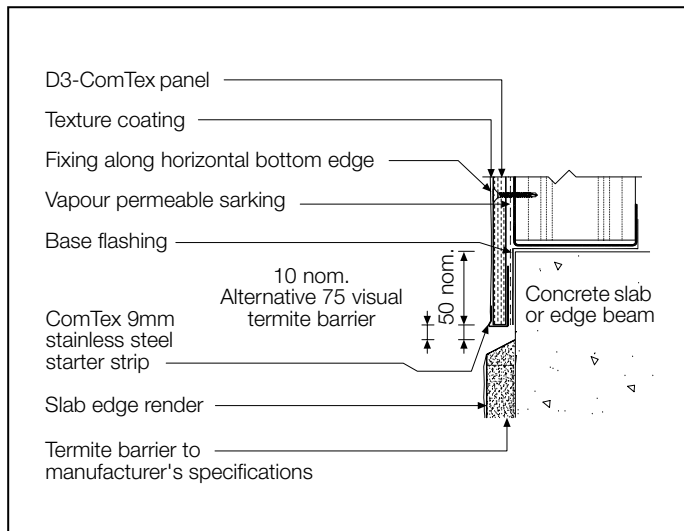


FIGURE 39 BASE DETAIL 3

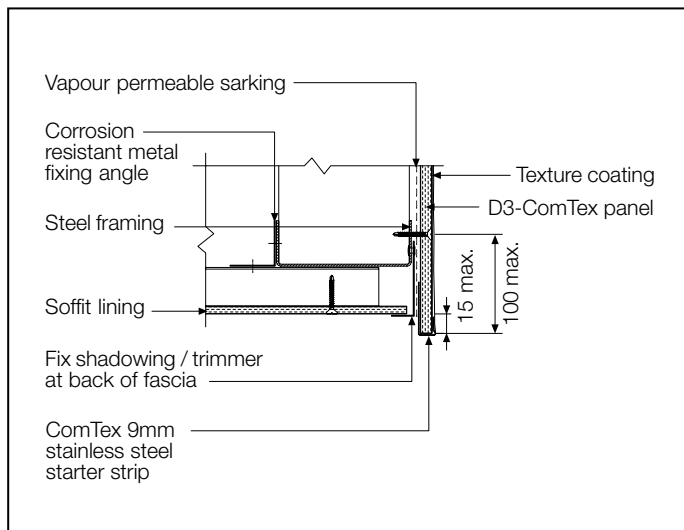


FIGURE 40 FASCIA/SOFFIT JUNCTION

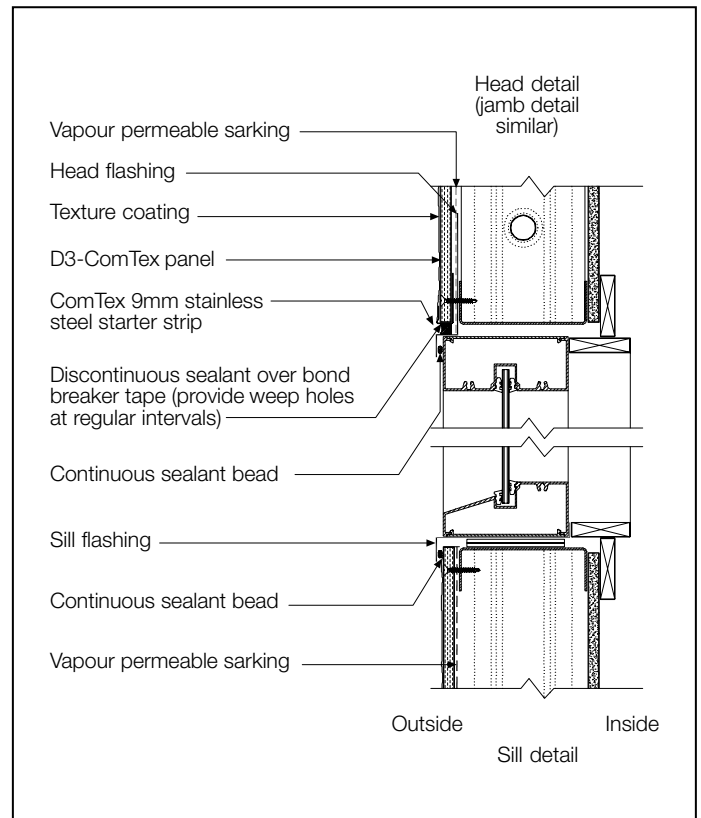


FIGURE 41 SHOP FRONT WINDOW

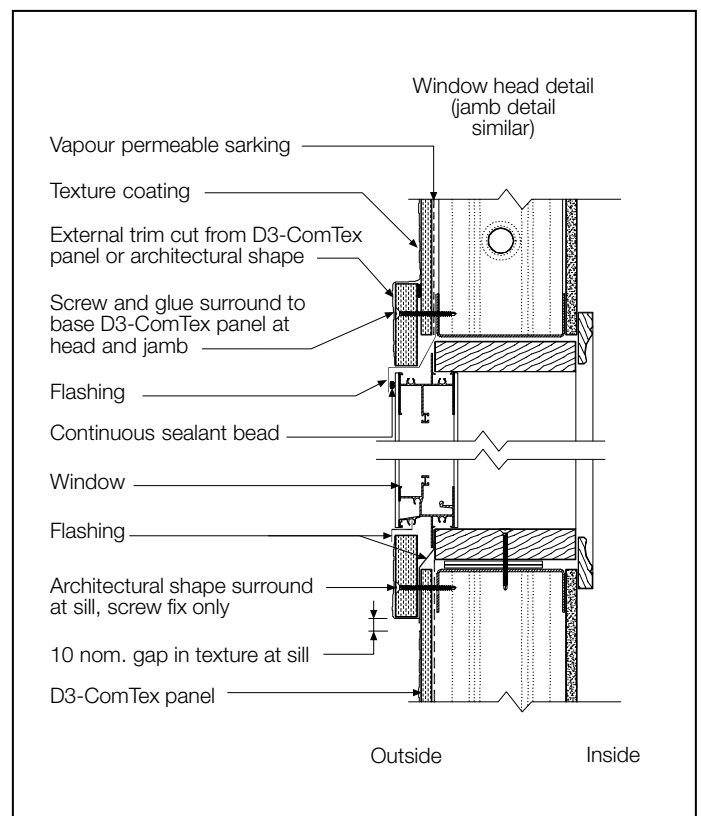


FIGURE 42 TYPICAL WINDOW WITH SURROUND

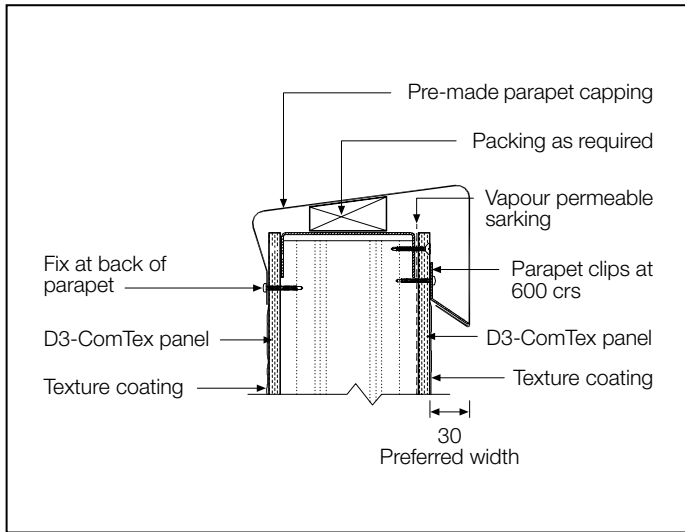


FIGURE 43 PARAPET CAPPING DETAIL

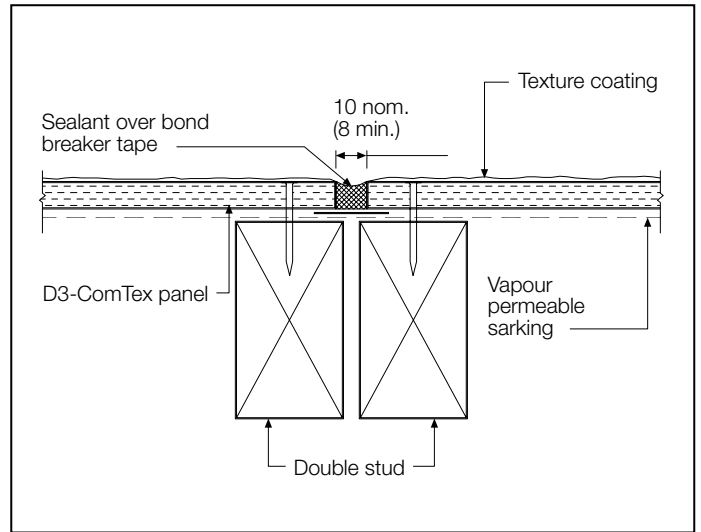


FIGURE 46 CONTROL JOINT - TIMBER FRAME

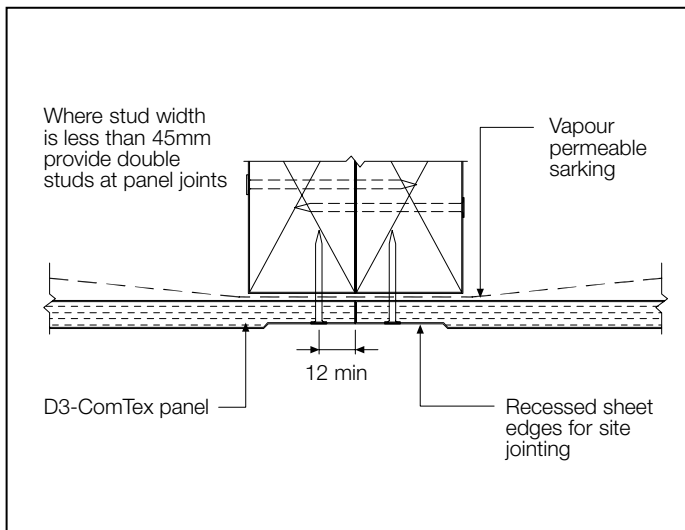


FIGURE 44 DOUBLE TIMBER STUD

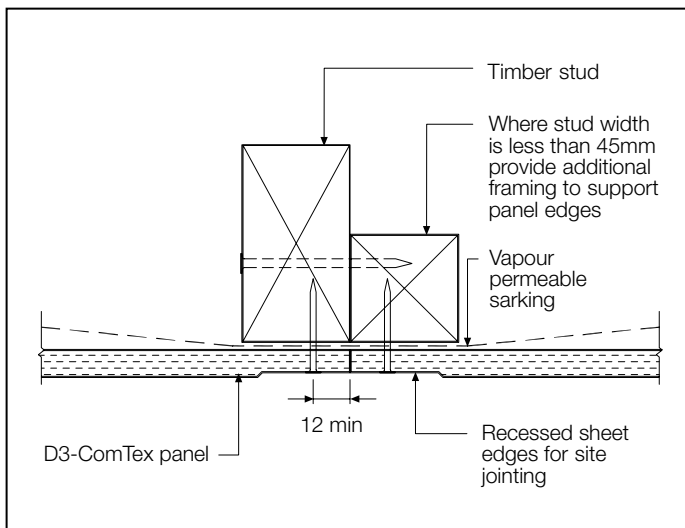


FIGURE 45 ADDITIONAL FRAMING FOR PANEL EDGE SUPPORT

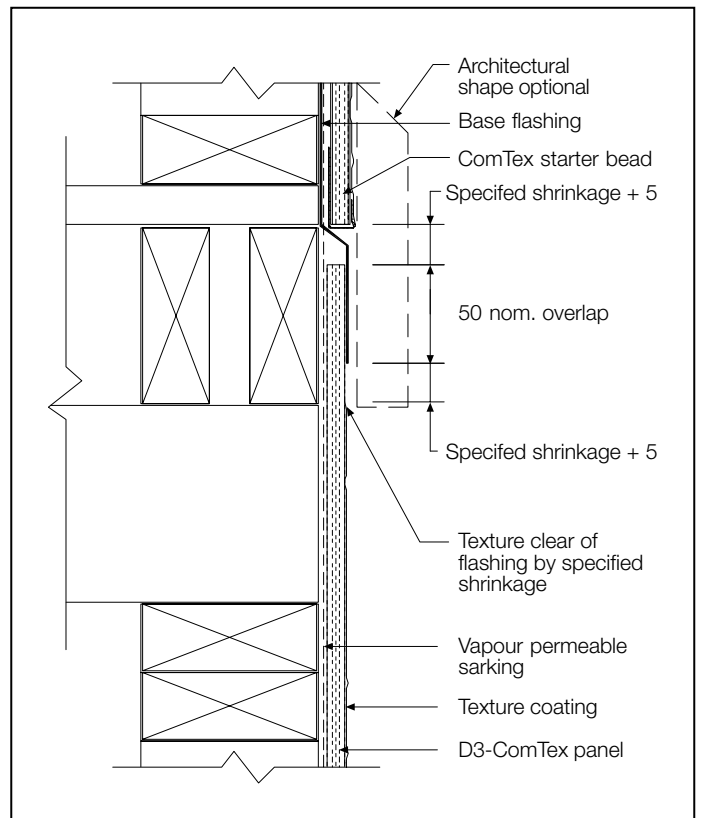


FIGURE 47 HORIZONTAL STRUCTURAL JOINT - TIMBER FRAME

# 11 WARRANTY

James Hardie Australia Pty Limited ("James Hardie") warrants for a period of 10 years from the date of purchase that the D3-ComTex® facade system (the "Product"), will be free from defects due to defective factory workmanship or materials and, subject to compliance with the conditions below, will be resistant to cracking, rotting, fire and damage from termite attacks to the extent set out in James Hardie's relevant published literature current at the time of installation. James Hardie warrants 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.

Nothing in this document shall exclude or modify any legal rights a customer may have under the Trade Practices Act or otherwise which cannot be excluded or modified at law.

## CONDITIONS OF WARRANTY

The warranty is strictly subject to the following conditions:

- a) James Hardie will not be liable for breach of warranty unless the claimant provides proof of purchase and makes a written claim 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) this warranty is not transferable;
- c) 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. Further, all other products, including coating and jointing systems, applied to or used in conjunction with the Product must be applied or installed and maintained strictly in accordance with the relevant manufacturer's instructions and good trade practice;
- d) the project must be designed and constructed in strict compliance with all relevant provisions of the current BCA, regulations and standards;
- e) the claimant's sole remedy for breach of warranty is (at James Hardie's option) that James Hardie will either supply replacement product, rectify the affected product or pay for the cost of the replacement or rectification of the affected product;
- f) James Hardie will not be liable for any losses or damages (whether direct or indirect) including property damage or personal injury, consequential loss, economic loss or loss of profits, arising in contract or negligence or howsoever arising. Without limiting the foregoing James Hardie will not be liable for any claims, damages or defects arising from or in any way attributable to poor workmanship, poor design or detailing, settlement or structural movement and/or movement of materials to which the Product is attached, incorrect design of the structure, acts of God including but not limited to earthquakes, cyclones, floods or other severe weather conditions or unusual climatic conditions, efflorescence or performance of paint/coatings applied to the Product, normal wear and tear, growth of mould, mildew, fungi, bacteria, or any organism on any Product surface or Product (whether on the exposed or unexposed surfaces);
- g) all warranties, conditions, liabilities and obligations other than those specified in this warranty are excluded to the fullest extent allowed by law;
- h) if meeting a claim under this warranty involves re-coating of Products, there may be slight colour differences between the original and replacement Products due to the effects of weathering and variations in materials over time.

## 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 (c), (d), (f) and (g) above. Further, as the successful performance of the relevant system depends on numerous factors outside the control of James Hardie (eg 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 ("BCA"), regulations and standards.

Ask James Hardie™

CUSTOMERLINK® SERVICE CENTRE

Call 13 11 03

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