



**James Hardie
Building Products**



HardiFlex[®]

TECHNICAL MANUAL



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HardiFlex®

HardiFlex® Walls and Ceilings
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Introduction

INTRODUCTION TO JAMES HARDIE BUILDING PRODUCTS

The Company Behind The Product

James Hardie is one of Australia's largest manufacturing organisations and a major supplier of building products and systems in Australia, New Zealand, USA and Asia. Since its formation, more than 100 years ago, James Hardie has built on a tradition of technical innovation, putting the company in the position of being, for most of its 100-year history, a world leader in fibre cement technology.

Global Leader

James Hardie is committed to achieving and sustaining a global leadership position in the manufacture and marketing of durable fibre cement building products. The investment in technology through the years has allowed the Company to continually introduce innovative building concepts to the market which are synonymous with high performance, durability and architectural flexibility and as a result, provide customers with exceptional value for money.

Local Manufacturing Capability

In the Philippines, James Hardie has built one of the most advanced fibre cement manufacturing plants with sophisticated computerised process control systems to guarantee the highest quality of manufactured product. The plant was completed in late 1998 and has the capacity to produce over 15 million m² of fibre cement building sheets per year.



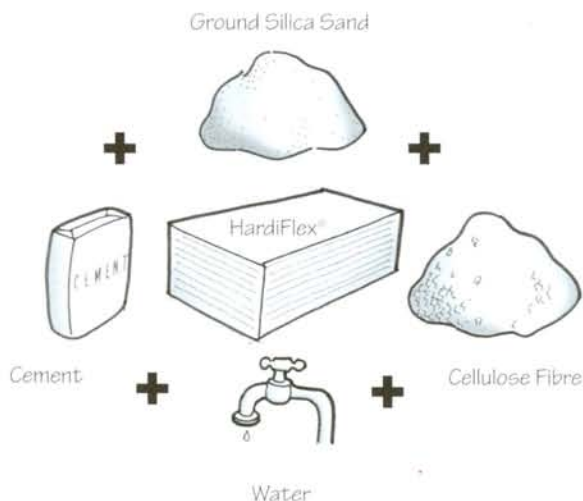
**James Hardie
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Introduction

Basic Composition

Fibre cement is manufactured from Portland cement, finely ground sand, treated cellulose fibre and water. It does not contain asbestos.

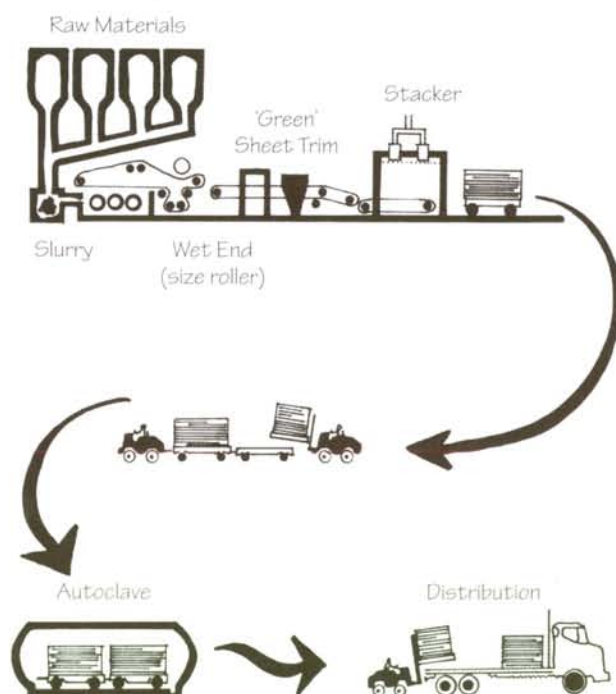


Manufacturing Process

James Hardie has been involved in fibre cement manufacture for over 80 years. This extensive manufacturing history has enabled the Company to continually develop its technology and to implement constant improvements in order to produce today's high performance fibre cement building boards.

Fibre cement is manufactured using the Hatschek process, which involves building up a number of laminations of a slurried mix of the core ingredients on a large steel cylinder, known as the size roller. When the desired sheet thickness is achieved, the "green" sheet is cut away and deposited on a conveyor, where it is trimmed to size, then stacked and left for a short period of pre-curing.

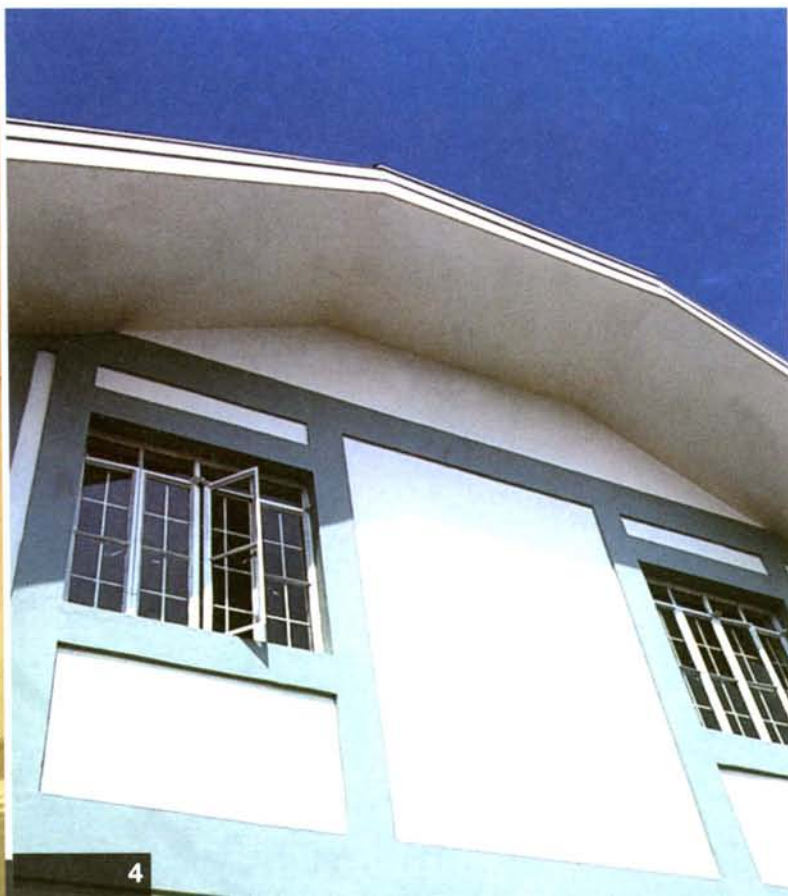
The final curing, which is made in a high pressure steam autoclave, changes the chemical structure of the cement/silica sand matrix to produce highly durable and strong fibre cement products, such as HardiFlex® building boards.



HardiFlex® BUILDING BOARD

Smooth and durable HardiFlex® building boards are a tough, flexible building product, unsurpassed for economy, versatility and ease of working. They are ideal for many general building purposes and can be used to clad walls, ceilings, eaves and gable ends.

HardiFlex® building boards are available in a range of stock lengths, widths and thicknesses. They come in a natural grey colour with an off-the-machine smooth surface which will readily accept most applied finishes. They can be identified by the HardiFlex® brand name printed on the reverse face of the sheets.



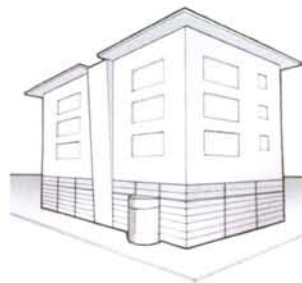
Recommended Application Table



RESIDENTIAL

	HardiFlex® 4.5mm	HardiFlex® 6.0mm	HardiFlex® 9.0mm
Ceilings	✓		
Internal Linings	✓	*	
Eaves / Carports	✓		
Gables / External Cladding		✓	*

* For Extra Impact Resistance



COMMERCIAL

	HardiFlex® 4.5mm	HardiFlex® 6.0mm	HardiFlex® 9.0mm
Ceilings / Soffits		✓	
High Impact Walls			✓
Internal Partitions	✓	*	

* For Extra Impact Resistance

Product Advantages

Advantages

HardiFlex® building boards are as durable as they are adaptable - they will not burn, are resistant to permanent water and termite damage and when installed as directed, are resistant to rot and warping.



Will Not Burn



Is Ready To Paint



Is Not Affected By Water



Is Environmentally Friendly



Is Termite Proof



Is Easy To Work



Is Asbestos Free



Is Cost Effective

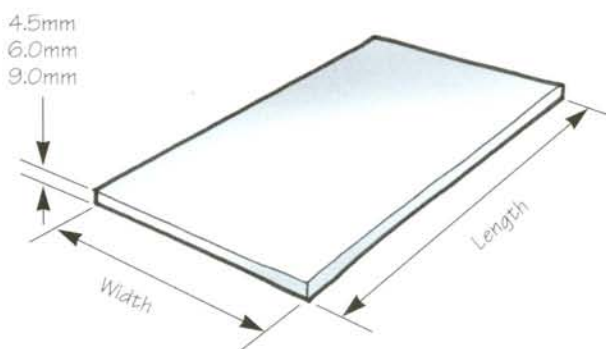
Physical Properties

Sheet Attributes

Standard Sheet Sizes

Dimensions (length x width)	Sheet Thickness		
	4.5mm	6.0mm	9.0mm
2440mm x 1220mm (8ft x 4ft)	✓	✓	✓
3660mm x 1220mm*	✓	✓	✓

* These sizes are manufactured to order. Please contact James Hardie for minimum order quantity and manufacturing lead time.



Sheet Tolerances

HardiFlex® sheets are manufactured to the following dimensional tolerances:

Length & Width	-2, + 0.0mm
Thickness	-0, + 0.5mm

NOTE: Max. difference between diagonals is 6mm

Approximate Mass (kg/m²)

At equilibrium moisture content, the approximate mass of HardiFlex® sheets are :

Thickness (mm)	Approx. Mass (kg/m ²)
4.5	7.0
6.0	8.5
9.0	14.0

Fire Resistant Properties

HardiFlex® sheets will not burn and have the following fire resistant properties:



AUSTRALIA

AS 1530.3 - 1982: Early Fire Hazard Indices

Ignition Index	0
Flame Spread Index	0
Heat Evolved Index	0
Smoke Developed Index	0 - 1

NOTE: Zero is the best possible result



U.S.A.

ASTM E 84: Surface Burning Characteristics of Building Materials

Flame Spread	0
Fuel Contributed	0
Smoke Density	5
Class (NFPA)	A
(UBC)	1

NOTE: HardiFlex® sheets are approved for use in areas where ceilings or partitions having a surface spread rating of class 0 or lower is required.

Physical Properties

Moisture Resistance Properties

Moisture Content (%)

Tested to ASTM C1185.10 - 1991

At EMC 3.4% average

Moisture Movement (%)

EMC to saturated 0.06

EMC to oven dry 0.13

Total saturated to oven dry 0.19

Water Absorption (%)

Tested to ASTM C1185.9 - 1991

EMC to saturated 34.2% average

Water Tightness (%)

Tested to AS 3991.4 - 1992, ASTM 1185.11 - 1991

No water droplets form on the underside of the sheet after 24 hours.

Resistance to Heat/Rain (%)

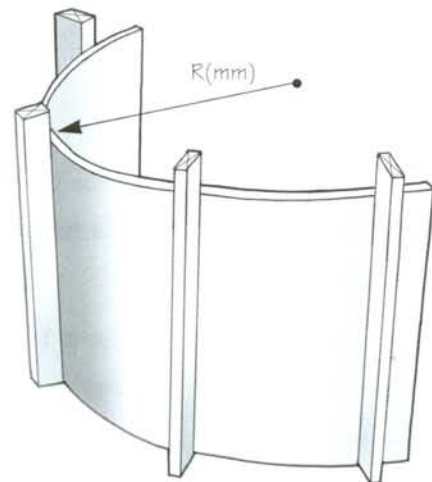
Tested to AS 3991.6 - 1992, ASTM 1185.13 - 1991

No signs of damage, distortion, cracking, or pullout after 4 cycles of testing.

NOTE: Where values are quoted at Equilibrium Moisture Content (EMC), the conditions of the environment are $23 \pm 5^{\circ}\text{C}$ and $50 \pm 10\%$ relative humidity. "Saturated condition" refers to sheets that have been immersed in water for 24 hours.

Bending Radius

Thickness (mm)	Min. Radius (mm)
4.5	900
6.0	1800



MANUFACTURING STANDARDS

AUSTRALIA

Hardiflex is manufactured to conform with Australian Standard AS 2908.2-1992 Cellulose Fibre - Cement products. Hardiflex has a classification of Type A, Category 2 in accordance with this Standard.

INTERNATIONAL

Hardie's internal lining boards meet or exceed the requirement of the International Standards Organisation (ISO) draft standard for Fibre Cement Flat Sheets (ISO/DIS 8336) - July 1991.

Internal Partitions

GENERAL GUIDELINES

The following are general guidelines for HardiFlex® internal wall/partition lining:

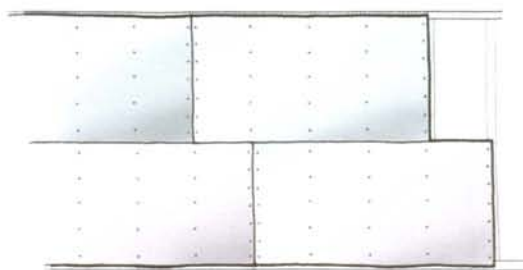
Sheet Layout

HORIZONTAL SHEET FIXING

HardiFlex® sheets may be laid horizontally across the studs, i.e. with the long side of the sheet at right angles to the studs. This substantially reduces the length of jointing required.

Sheets should be laid out in a 'brick' or 'staggered' pattern so that adjacent end joints do not coincide. In normal situations, where sheet joints are set the end joints should not coincide with corners of doors or window openings, as these joints may crack due to minor frame movement.

Horizontal Sheet Layout



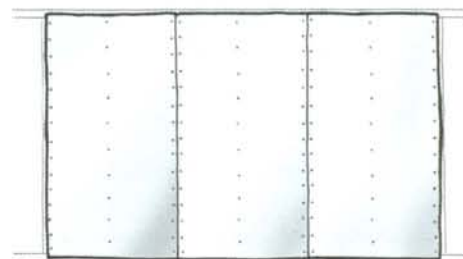
Where end joints occur, they should be fully supported by framing and coincide with the centreline of a stud, nogging or plate. This is to ensure sufficient edge clearance for nailing or screwing of adjoining sheets along the sheet edges.

Where walls are clad on both sides with HardiFlex® sheets ensure that sheet joints are staggered across the wall.

VERTICAL SHEET FIXING

HardiFlex® sheets can also be fixed vertically to framing.

Vertical Sheet Layout



Framing Requirements

FRAMING CENTRES

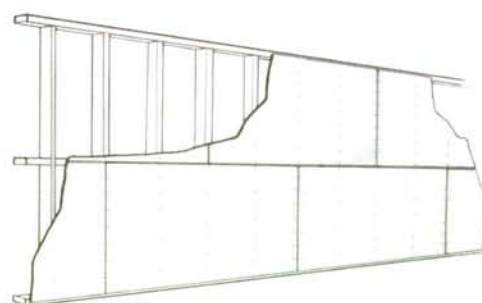
For internal partitions stud spacing for HardiFlex® sheets should not exceed nominally 610mm centres. Stud faces should be of sufficient width to adequately support sheet edges and to avoid edge break-out when driving nails or screws. For best results, a minimum 45mm wide face is recommended.

FRAMING MATERIALS

Timber or steel framing may be used.

Timber should be selected to minimise shrinkage and therefore kiln dried softwoods are preferred.

Typical Timber Framing

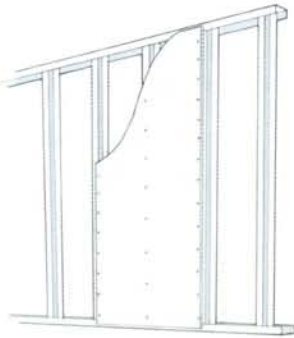


Internal Partitions

FRAMING MATERIALS (continued)

Steel studs should be fabricated from light gauge sheet metal of 1.2mm max. thickness.

Typical Light Gauge Steel Framing

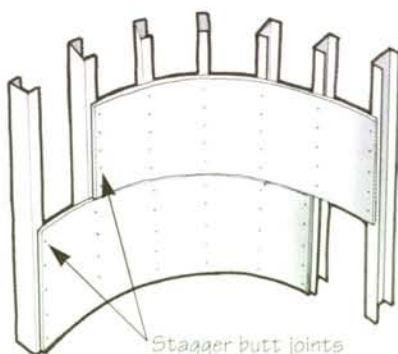


HardiFlex® sheets must not be fixed directly to drawn steel or hot rolled steel sections. These should be battened out with 50mm thick timber battens or light gauge metal furring channels.

Steel studs must be firmly secured to top and bottom plates and frames must be rigid and not rely on the HardiFlex® sheets for stability.

CURVED APPLICATIONS

HardiFlex® sheets can be used for curved applications. The minimum recommended radius for convex or concave fitted sheets of 6mm thickness is 1.8m and for 4.5mm thick sheets is 0.9m. Sheets must be bent along the length and framing centres must be reduced to give extra support to the curve.

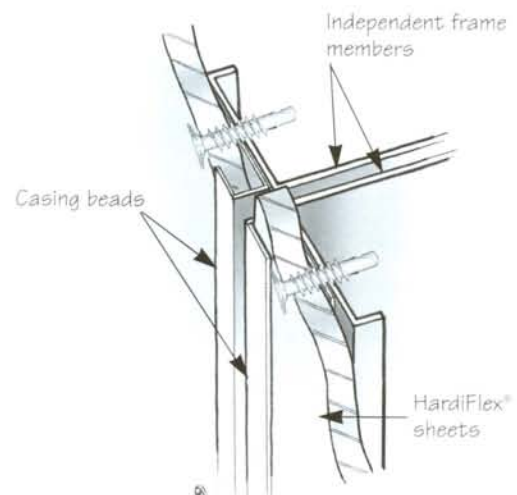


SPECIAL FRAMING REQUIREMENTS

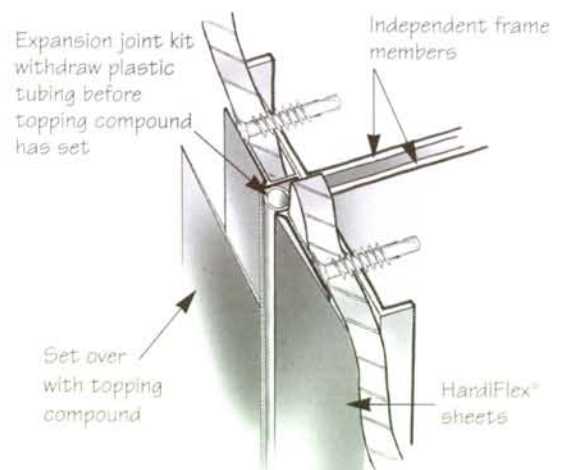
Where joints are set, expansion joints should be provided at 7.2m maximum centres. Framing members (to which sheeting is fixed) must not continue across these expansion joints. Where the wall is to be tiled, expansion joints should be provided at 4.2m centres.

Two expansion joint alternatives are recommended:

- Casing beads (plastic or metal) at sheet edges when setting of the sheet edge is not required.



- Expansion joint kits at sheet edges when flush jointing of the sheet edge is required.

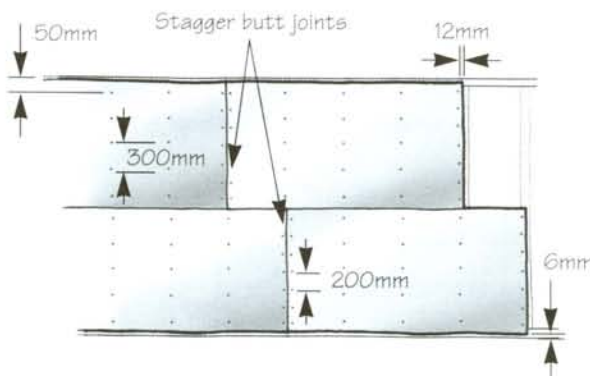


Internal Partitions

Fixing Details

Fasteners should not be placed less than 12mm from sheet edges and 50mm from corners. Fasteners should be driven along ends of the sheets at approximately 200mm centres and along intermediate studs at approximately 300mm centres. Do not fix to top and bottom plates or noggings.

Typical Fixing Details



Ensure that the sheet is held hard against the framing during nailing or screwing to minimise fastener break-out in the back of the sheet.

Sheets are to be fixed 6mm clear of the floor for all wall applications. Care should be taken to ensure that this gap does not become filled with cement, adhesive or grout during floor tiling procedures.

FIXING TO TIMBER



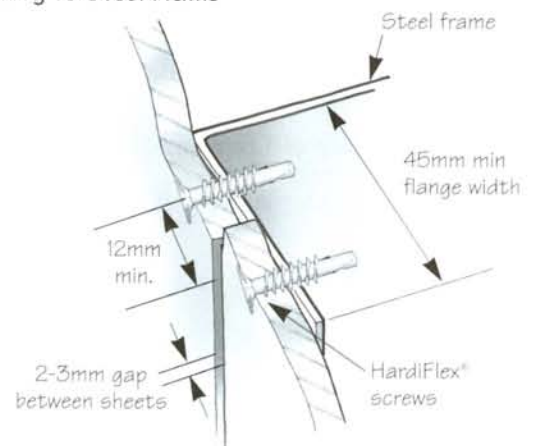
Fix HardiFlex® sheets to timber frames with 32mm x 2.0mm galvanised flat head HardiFlex® nails.

FIXING TO STEEL



Screw HardiFlex® sheets to metal frames with HardiFlex® screws.

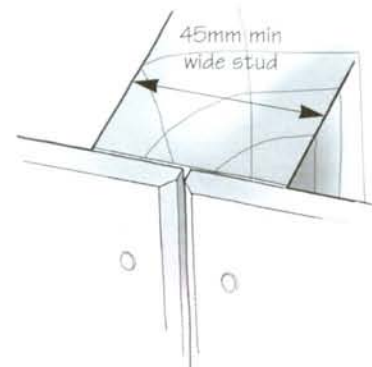
Fixing to Steel Frame



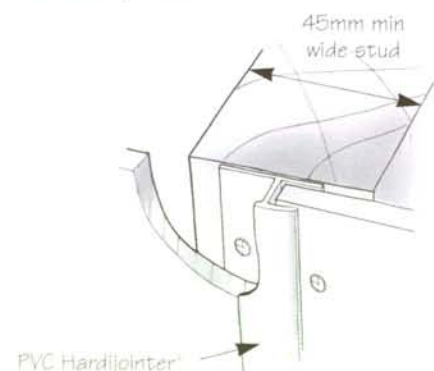
Joining

HardiFlex® joints between sheets can be flush jointed using the HardiStop® jointing system (refer to the section on flush jointing procedure). Alternatively, depending on aesthetics, HardiFlex® sheets can be:

V jointed



PVC Hardijointed



External Walls

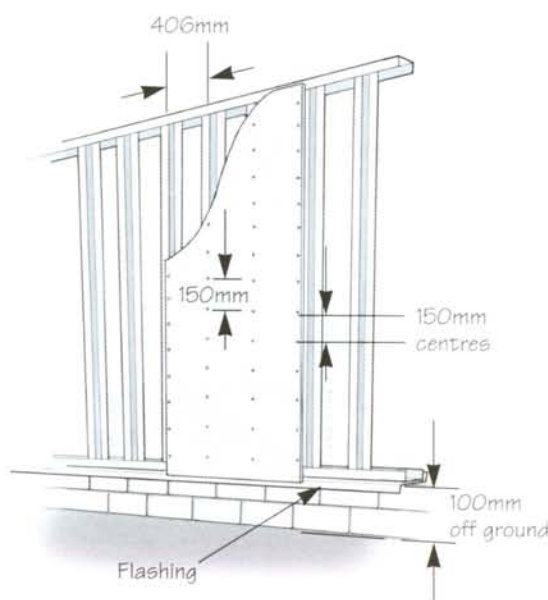
GENERAL GUIDELINES

In external applications, a minimum HardiFlex® sheet thickness of 6mm should be used. Recommendations for sheet layout are identical to those outlined in the previous section.

Framing Requirements

Framing members, whether timber or steel, need to be designed specifically to meet the wind load requirements. Typically, framing members should not be spaced more than a nominal 406mm apart.

External Sheet Layout



NOTE: Framing must be designed to meet structural and wind loads.

HardiFlex® sheets must not be in permanent contact with the ground. The bottom sheet edge should be a minimum 100mm from the soil line.

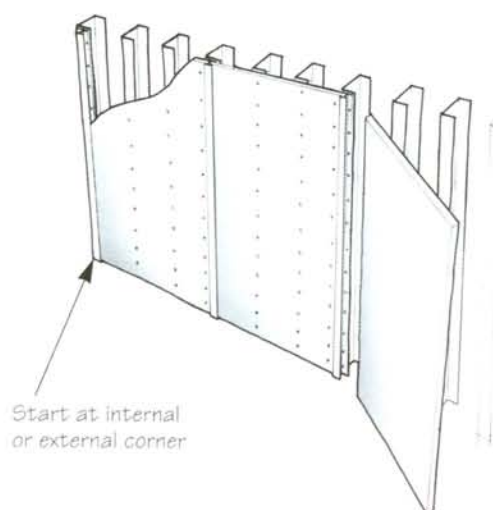
Fixing Details

HardiFlex® sheets should be fixed such that all sheet edges and joints coincide with framing.

Fixing is progressive and sheets should be set out and fixed from internal or external corners. Install corner moulds on the first sheet before positioning. Secure the sheet with intermediate fixings only. Install the next jointer, before completely nailing the sheet. Proceed similarly with all succeeding sheets.

Ensure the sheet is held hard against the framing during fixing to minimise fastener break-out.

Typical Fixing Procedure



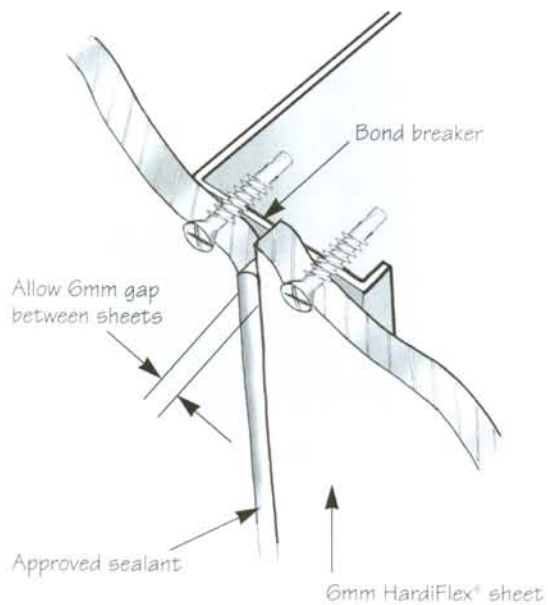
As per the typical fixing recommendations, nails and screws should not be placed closer than 12mm to the sheet edges. At corners they should be set back 50mm. The standard fixing recommendations for general external cladding is fasteners at 150mm centres around all four sheet edges and intermediate studs.

Fixing must be designed to suit the prevailing wind load conditions.

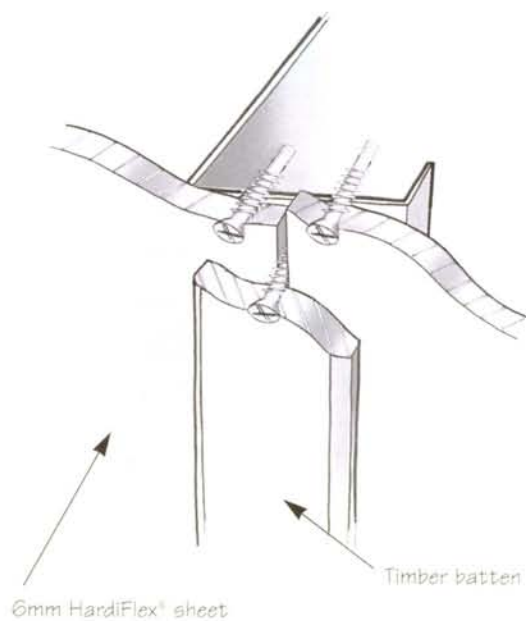
External Walls

Jointing Details

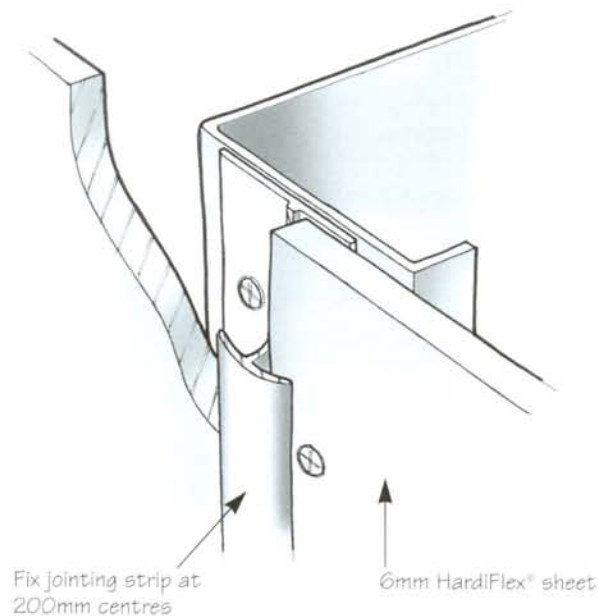
Sealant Joint



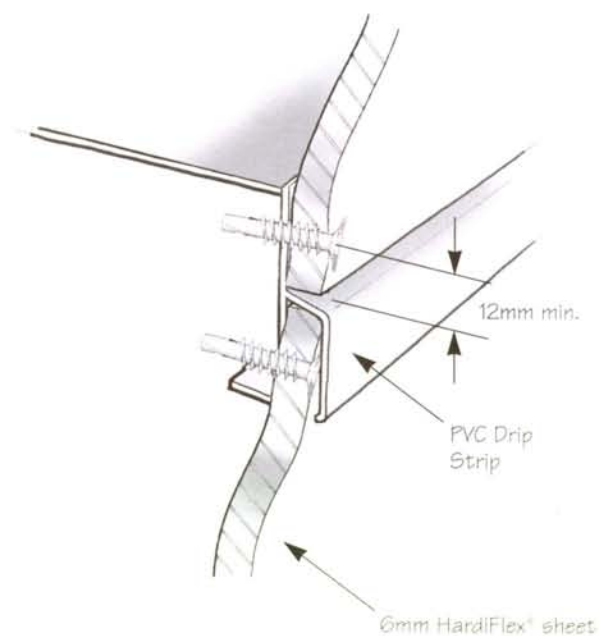
Timber Batten Joint



PVC Straight Joiner



PVC H-Joint For Horizontal Jointing



Ceilings/Soffits

CEILINGS/SOFFITS

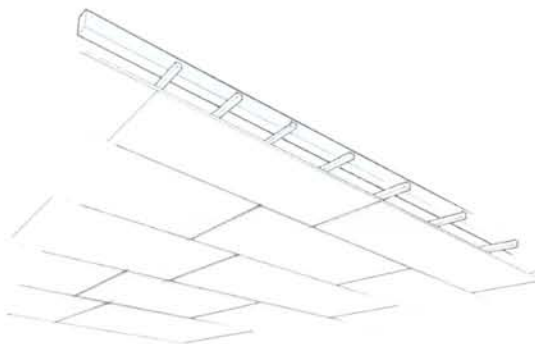
The following are general guidelines for internal ceilings, external soffits or eave linings:

Sheet Layout

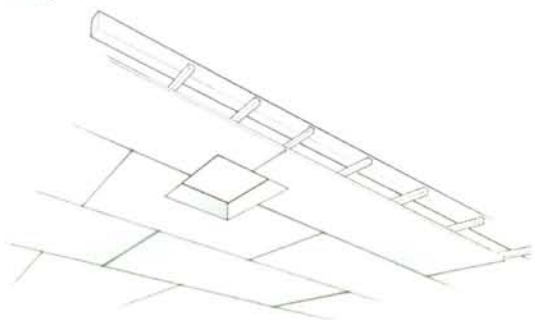
Install HardiFlex® sheets across the framing members, i.e. place the long edges of the sheet at right angles to the joists or furring channels or where battens are used, across the battens.

Sheets should be laid out in a 'brick' or 'staggered' pattern so that adjacent butt joints are not located on the same framing member. Locate butt joints on the centre line of a joist or batten. Where joints are set, lay sheets to ensure that butt joints do not coincide with corners of openings, as these joints may crack due to frame movement.

Sheet Layout



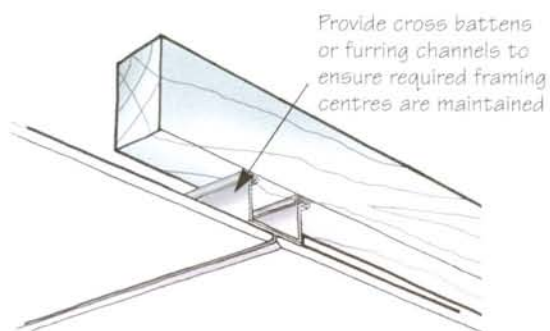
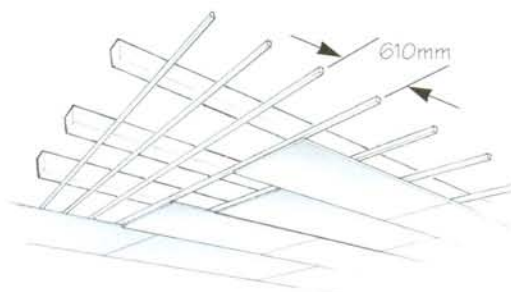
Openings



Framing Requirements

FRAMING CENTRES

Framing should be designed in accordance with good building practice. For ceiling applications, sheeting should be fixed to framing members spaced at no more than nominally 610mm centres. Where framing member spacing exceeds 610mm centres, cross battens or furring channels must be provided at no more than 610mm centres. For soffit applications or in high wind load areas, a minimum sheet thickness of 6mm should be used with the spacing of framing members reduced to nominally 406mm centres.



FRAMING MATERIALS

Timber or steelwork may be used except where a building requirement excludes the use of timber. Timber should be selected to minimise shrinkage and therefore kiln dried softwoods are preferred.

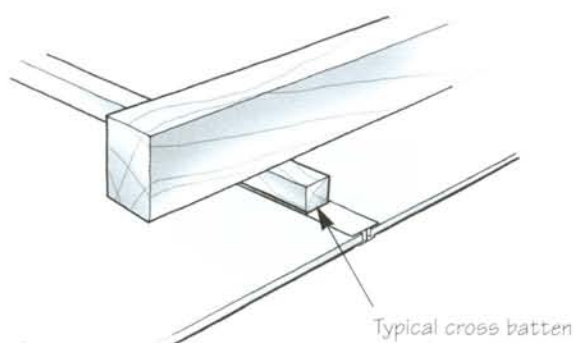
Steel should be cold formed sections of light gauge, maximum 1.2mm thick. When steel gauge exceeds 1.2mm, suitable light gauge furring channels should be provided at the appropriate framing centres.

Ceilings/Soffits

Framing Requirements (continued)

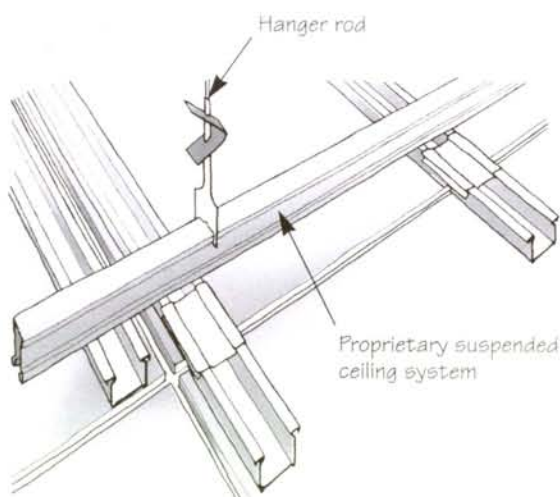
RESIDENTIAL APPLICATIONS

In residential applications, sheets should not be fixed directly to the underside of roofing rafters or trusses. Cross battens should be provided at the appropriate framing centres.



COMMERCIAL APPLICATIONS

For commercial applications, the framing requirements mentioned can best be achieved by the use of a proprietary system consisting of a suspended cross-rail to which furring channels can be fixed.

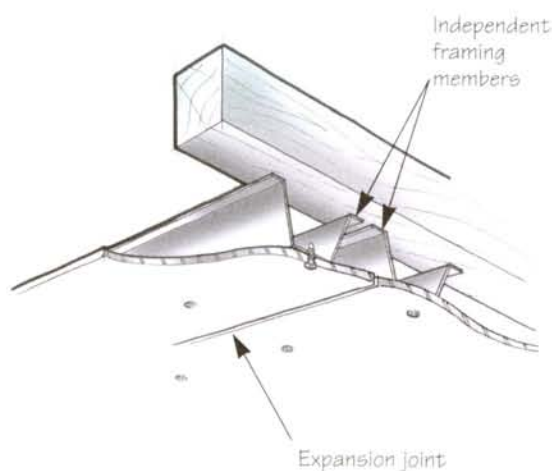


SPECIAL FRAMING REQUIREMENTS

Where joints are set in internal applications, ceilings should be divided into bays not exceeding 9m x 6m. In external applications, soffits should be divided into bays not exceeding 4.2m x 4.2m. It is desirable that each bay be able to move independently of adjacent bays and the surrounding building structure. To permit this movement, an expansion joint should be formed at the perimeter of each bay.

Framing members must not continue across this expansion joint. Where battens or furring channels run in the same direction as the expansion joint, one batten or channel must occur on each side of the joint. Where battens or furring channels run at right angles to the expansion joint, each batten or furring channel must break at the expansion joint. Alternatively, a proprietary slip joint can be used.

Expansion Joint Detail

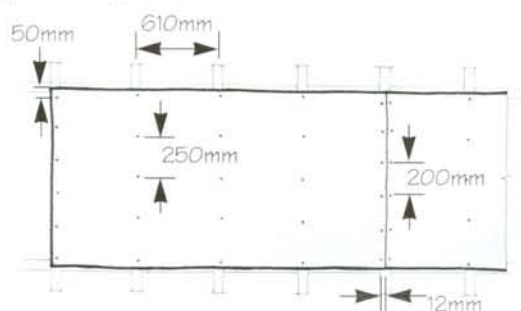


Ceilings/Soffits

Fixing Details

Nail or screw fixings should not be placed less than 12mm from sheet edges and 50mm from corners. Fasteners should be fixed into each framing member at approximately 250mm centres in the body of the sheet and at 200mm centres across sheet ends and along supported edges.

Typical Fixing Details



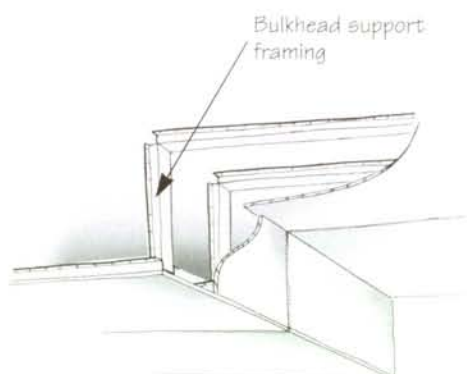
EXTERNAL SOFFIT APPLICATIONS

In high wind load areas, 6mm sheeting should be used, fixed at a maximum of 150mm centres to framing members spaced at nominally 406mm centres.

Bulkheads

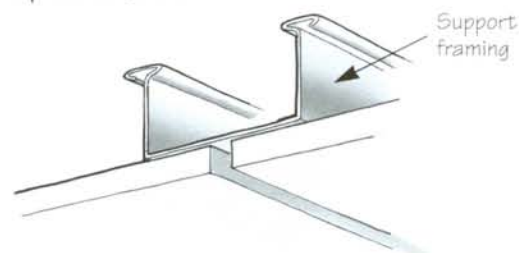
Where bulkheads are required, appropriate support framing must be provided.

Bulkheads

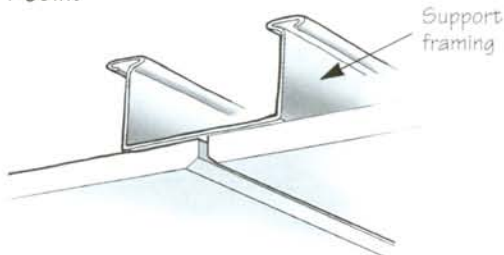


Jointing Details

Expressed Joint

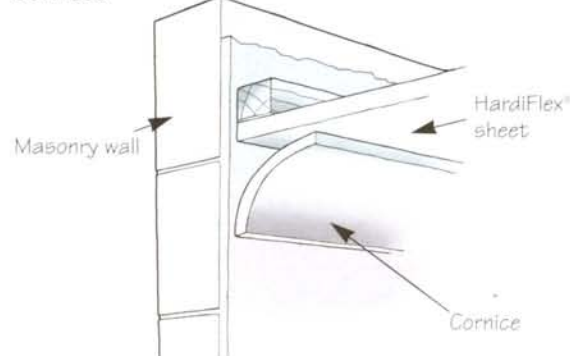


V Joint

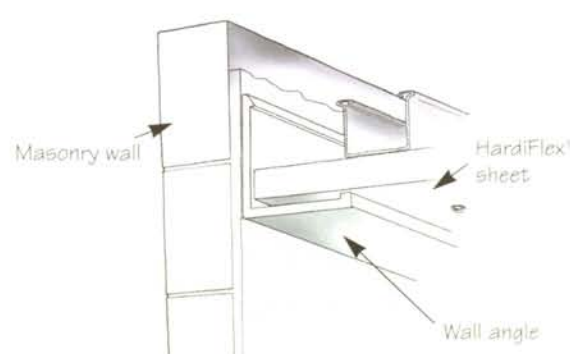


Abutment Details

Cornices



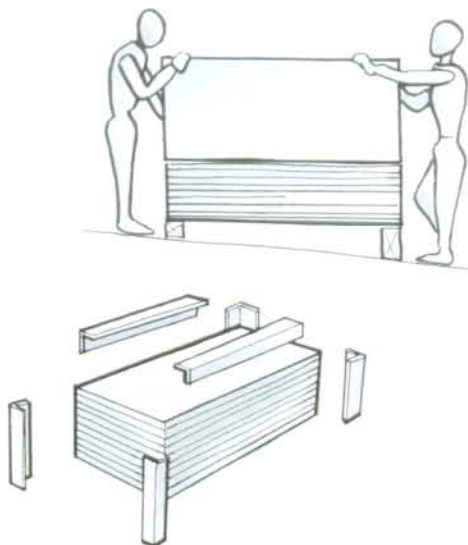
Wall Abutment



Working Instructions

Handling and Storage

HardiFlex® sheets should be carried on edge and stacked on a smooth, level surface. Edges and corners should be protected from chipping. To ensure optimum performance, store under cover and keep dry prior to fixing and coating. If the sheets should become wet, allow to dry thoroughly before fixing is commenced.



Safe Working Practices



Use face masks



Use safety goggles



Clean up, wet down
or vacuum



Disposal containment
of dust

Cutting

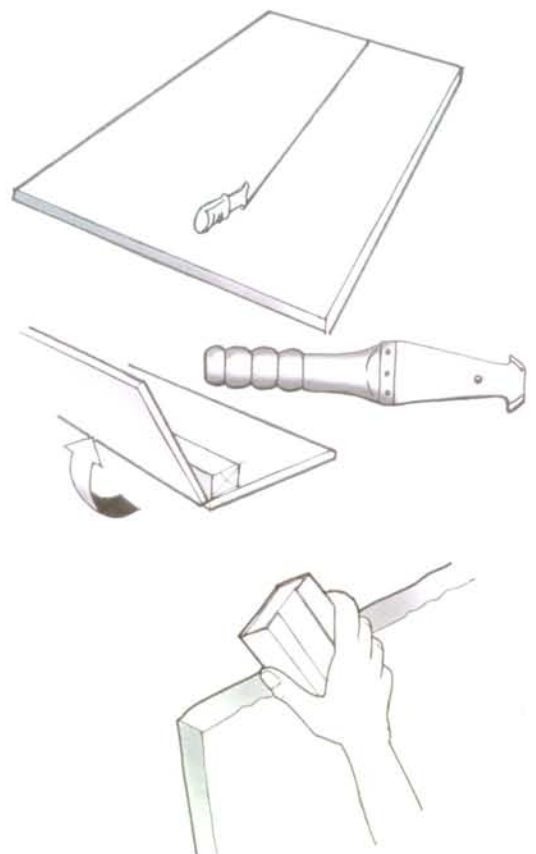
HardiFlex® sheets can be cut using any of the following methods:

SCORE-AND-SNAP

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

Procedure:

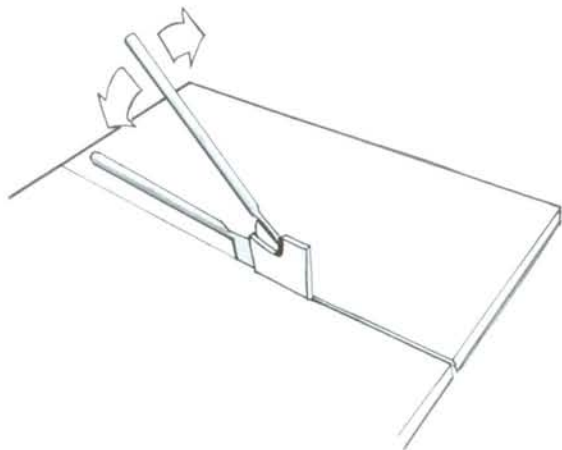
- Preferably score from the face side of the sheet.
- Position straight edge along the line of the cut.
- Score against straight edge and repeat the action to obtain adequate depth for a clean break - normally one-third of the sheet thickness.
- Snap upwards to achieve break.
- Clean up edges with a rasp or 40 grit sand paper.



Working Instructions

HAND GUILLOTINE

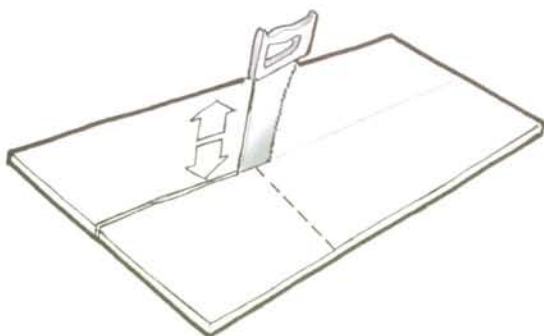
The hand guillotine, available from James Hardie, produces clean, straight edges. Make the guillotine cut on the off-cut side of the line to allow for the thickness of blade.



HANDSAWING

Hand sawing is suitable for general cutting operations and for small cuts, notchings or small penetrations. Preferably use an old handsaw. A quick forward jabbing action is best.

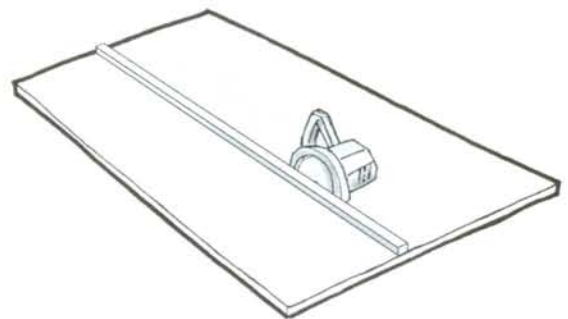
For neatness, mark out the cuts to be made on the face side of the sheet. Where small notches are to be made, cut the two sides with a handsaw or hand guillotine, score along the back with the "score-and-snap" knife and snap upwards.



POWER SAWING

Power tools can be used to cut HardiFlex® sheets. For best results, use a dry diamond saw blade. A dry carborundum blade can also be used however this is a much slower cutting alternative.

It is advisable to cut HardiFlex® sheets in the open air or in well ventilated spaces because of the fine dust that can be generated during power sawing. It is recommended that good safety practices are employed and that dust masks are used.



HEALTH WARNING Recommended Safe Working Practice

Breathing in the fine silica dust liberated when working with products such as fiber cement, clay and concrete is hazardous. Always work safely when working in dusty working areas.

When using power tools or abrasive hand tools on fiber cement sheets wear approved personal protective equipment, ie. breathing mask and safety goggles.

Working Instructions

Hole Forming

FOR SMOOTH, CLEAN CUT CIRCULAR HOLES

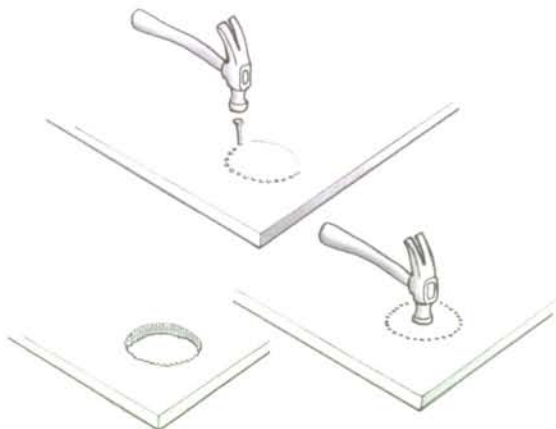
Procedure:

- 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 SMALL IRREGULAR HOLES

Procedure:

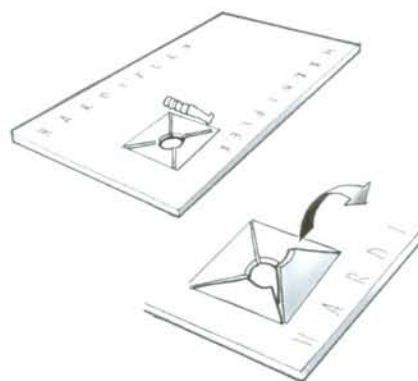
- Small rectangular or circular holes can be achieved by forming a series of small holes around the perimeter of the hole then tapping out the waste piece from the sheet face.
- Tap carefully to avoid damage to sheets, ensuring that the sheet edges are properly supported. Rough edges can be cleaned up with a rasp or 40 grit sand paper.
- Do not form holes through sheets with cold chisels, heavy hammers or any other "aggressive" methods.
- Such forceful methods will damage sheets and may cause other problems at a later date.



FOR LARGE HOLES OR OPENINGS

Procedure:

- Deeply score around the perimeter of the opening.
- Form a large round hole in the centre using the method previously described.
- Saw cut from the centre towards the corners of the opening. A jabbing action is efficient.
- Tap waste pieces from the face side and if necessary, clean rough edges with a rasp or with 40 grit sand paper. Radius corners with a half round rasp to eliminate any stress points.



Flush Jointing

Flush Jointing Internal Walls

HardiFlex® sheets can be jointed using the HardiStop® jointing system. To minimise the surface build-up of jointing materials over the joint, ensure that the recommended finished jointing widths in the following guidelines are applied. Contact James Hardie customer service for external jointing recommendations.

BASE COAT



Firmly embed the reinforcing tape centrally into the filled joint. Use sufficient pressure to ensure that the tape is firmly bedded. The tape should be free from trapped air bubbles with sufficient compound under the tape to ensure good adhesion. Remove any excess compound.

Immediately cover the tape with a thin layer of HardiStop® base coat and allow to dry.

SECOND COAT

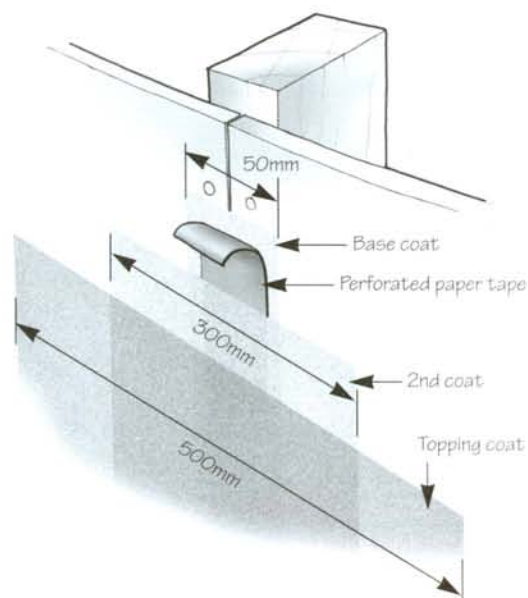
When the first coat is dry, apply a 300mm wide second coat of HardiStop® base coat to the joint.

Ensure that the preceding application and tape is completely covered. Feather joint edges to eliminate build up of compound. Allow to dry, then lightly scrape back if required.

TOPPING COAT

Apply a 500mm wide layer of Finishing Compound centrally over the joint. As before, the preceding application should be completely covered. Feather out the edges and allow to dry.

When the top coat is dry, lightly sand the joints using 120 grit paper. Sand in the same direction as the joints and avoid heavy pressure which may scuff the set surfaces. Cross sanding is not recommended.



NAIL & SCREW FINISHING

Screw fixings are to be countersunk a maximum of 0.5mm below the sheet surface. Similarly, nail fixings are to be hammer driven a maximum of 0.5mm below the sheet surface.

All fixings are to be set over with two successive coats of HardiStop® base coat, followed by a final coat of Finishing Compound and sanded smooth.

Flush Jointing

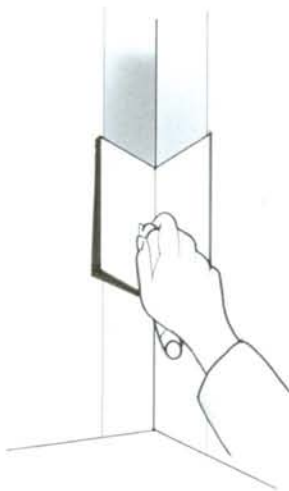
INTERNAL CORNERS (INTERNAL PARTITIONS)

Apply 70mm wide HardiStop® base coat to both sides of the corner.

Centre the perforated paper tape into the internal corner pressing it firmly into the base coat and cover with a thin skim coat.

Allow to dry, then apply a thin finishing coat by laying additional compound in the corner, feathering out the edges.

When dry, sand lightly. Take care not to scuff the HardiFlex® sheet surface.

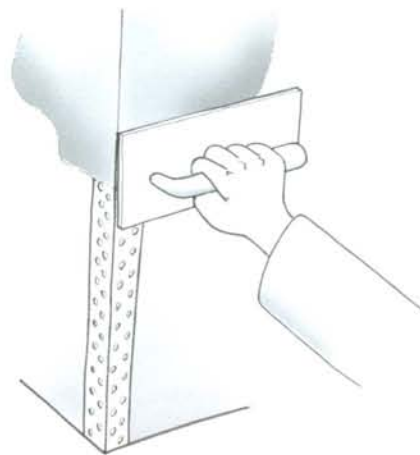


EXTERNAL CORNERS (INTERNAL PARTITIONS)

Fit a metal or PVC angle bead over the corner and ensure straightness before fixing with nails at 300mm centres.

Apply HardiStop® base coat to both sides of the corner to a width of about 150mm. Allow to dry before applying a second coat, building up the edges to 250mm from the corner.

When this coat is dry, apply a thin layer of HardiStop® top coat approximately 300mm wide to both sides of the corner, feathering out the edges.



Painting

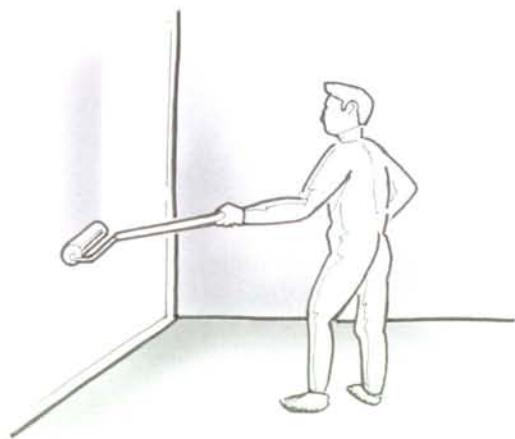
HardiFlex® sheets must have a minimum of two site coats of acrylic/latex paint applied after fixing. Coating should be completed within 1 month of sheet erection.

Use only quality 100% acrylic/latex paints. Economy paints are not recommended because generally they are less well bound, less moisture resistant and more prone to mould growth. In all cases, the paint manufacturer's specification for the selected paint must be followed. Note that some paints require an undercoat before applying the finish coat.

Damp, shady situations, agricultural or sea spray environments may induce an extra tendency for mould growth. Use mould inhibiting and alkaline resistant undercoats and consult the paint manufacturer for maximum mould resistant paints.

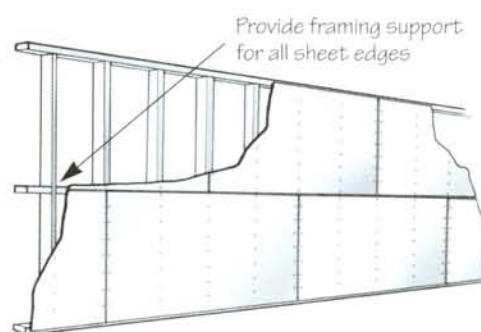
HardiFlex® sheets have an unsanded finish suitable for semi-gloss acrylics or textured coatings.

Before painting, remove any surface dirt, grime or other contaminants with a soft brush. Do not use water and ensure that HardiFlex® sheets are dry prior to painting.



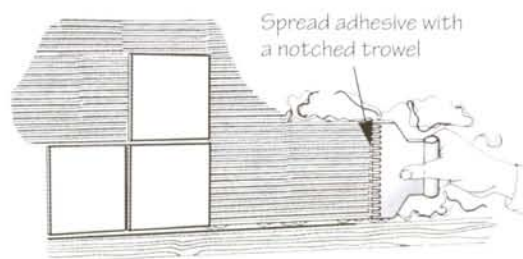
Tiling

Where tile finishes are specified, ensure that minimum 6mm thick HardiFlex® is used and fastened at maximum fixing centres of 150mm to the wall framing. Framing centres should be spaced at no more than 406mm. Sheets should be fixed and flush jointed in accordance with the recommendations outlined in this manual without application of the final top coat.



All sheet edges need to be supported by framing members including fixing to top and bottom plates and noggings.

Use only flexible adhesives for bonding tiles. Do not use rigid cement based adhesives. Adhesives should be spread with a notched trowel to ensure an even thickness adhesive bed. The application of "blobs" of adhesives to the back of the tile is not recommended.



It is strongly recommended that adhesives and compressible grouts are all supplied by the same manufacturer to ensure compatibility.

Accessories

HardiFlex® ACCESSORIES

			4.5mm	6.0mm	9.0mm
	HARDIFLEX® Nails Galvanised nail	2.0 x 32mm	✓	✓	✓
	HARDIFLEX® Screw For light gauge steel frames	25mm	✓	✓	✓
	PVC Straight Joint Plastic Jointing Strip For HardiFlex® sheets	4.5 – 2440mm 6.0 – 2440mm	✓		
	PVC External Corner Mould for jointing sheets at external corners	6.0 – 2440mm		✓	
	PVC Internal Corner Mould for jointing sheets at internal corners	6.0 – 2440mm		✓	
	PVC H-Joint Mould for jointing sheets / Horizontally on external application	6.0 – 3000mm		✓	
	HARDIFLEX® Scoring Knife Tungsten tipped scoring tool for easy cutting		✓	✓	✓
	Kwikrip® Cutter Hand guillotine for clean straight edges		✓	✓	✓
	Perforated Paper Tape – For Internal Use For flush jointing and finishing corners	75mm roll	✓	✓	✓
	HardiStop® Base Coat Water resistant base for the HardiStop® Jointing System	15kg pail	✓	✓	✓
	Metal/PVC Perforated Corner Angle – For Internal Use For finishing external corners	3000mm	✓	✓	✓