

Fibre Cement Board



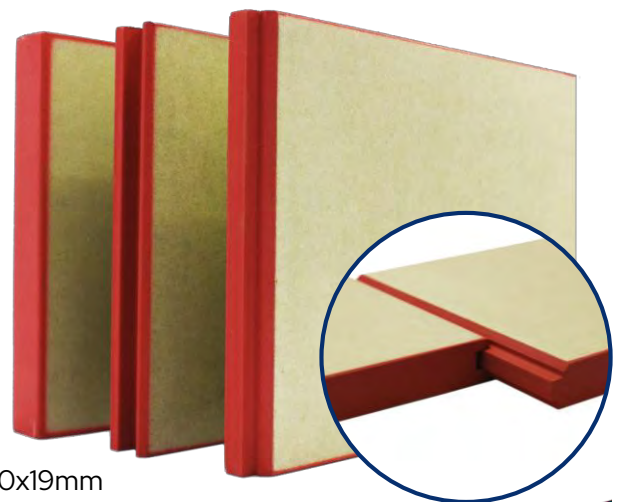
Typical Uses: Dry or wet interior, exterior and balcony decking

Edge Support: Tongue and groove profiles crafted on the longer edges

Fire Performance: Non-combustible

Durability: Termite, mould and decay resistant

**Lightweight, Efficient
& Reliable**



2700x600x19mm
1800x600x22mm

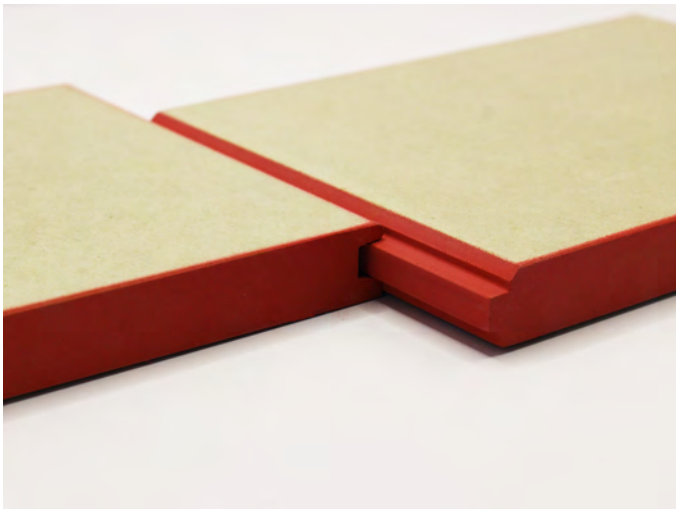


Fibre Cement Board Installation Guide



INTRODUCTION

City Timber structural T&G fibre reinforced cement flooring panels are manufactured in P.R. China and distributed in Australia by City Timber Pty Limited. They are intended for general purpose construction in residential and light commercial situations for durable and non-combustible floor platforms.



KEY CHARACTERISTICS

General:

Length & Width (mm)	Thickness (mm)	Approx Weight per Panel (kg)	Approx Weight per m2 (kg)
2700 x 600	19	45	27.8
1800 x 600	22	35	32.2

*Note – weights may change if sheets are wet.

Manufacturing Standard: AS/NZS 2908.2 – Type A, category 3

Recommended Maximum Structural Loads: (For general purposes)

Sheet Thickness (mm)	Maximum Joist Spacing (mm)	Maximum G + Q (kPa)	Maximum Concentrated Point Load (kN) 100 mm x 100 mm
19	450	5.2	2.0
22	400	8.8	4.5
22	600	6.2	2.0

G = Permanent action (self-weight or 'dead' action UDL) Q = Imposed action due to occupancy and use, 'live' loads (UDL)

Typical Uses:	Interior flooring (dry or wet area), exterior deck and balcony flooring
Edge support:	Tongue and groove profiles moulded on long edges.
Fire performance:	Non-combustible
Durability:	Termite resistant, decay and mould resistant

DESIGN CONSIDERATIONS

This guide is intended for general purposes and cannot anticipate all situations. City Timber FC flooring should be de-signed and constructed in conformance to AS/NZS 1170.1 Structural design actions: Part 1: Permanent, imposed and other actions.

It is the designer's responsibility to:

1. Ensure that the supporting structure is adequate for the anticipated loads and general requirements in the structure.
2. To determine that the specifications of this product are suitable for the intended end use applications to meet with the relevant sections of the National Construction Code.

SKILLS REQUIRED

For the correct installation of fibre cement sheet flooring:

1. The installer should at a minimum be competent in general construction and working with fibre cement products.
2. Competency in working with power tools such as circular saw and drill will also be required.
3. In some circumstances, an experienced DIY person may be suitable.



PRE-INSTALLATION CHECKS

Ensure that the fibre cement sheets to be used are correct for thickness and length as set out in the plans. Check the sheets for any damage or degrade that may have occurred during storage or delivery.

SITE STORAGE & HANDLING

While on site before installation, fibre cement sheets must be stored lying flat on a pallet or on bearers off the ground. Storing sheets on edge for any significant length of time is not recommended due to the potential damage to the tongue and groove profiles.

Cover the packs with waterproof sheets if being stored in the open to prevent rainwater from penetrating the packs which may increase their weight and promote surface mould. Do not let sheets drop as that can damage the edges and corners or cause cracks in more severe cases.



HEALTH & SAFETY

Handling and use of building materials of any sort may present certain hazards.

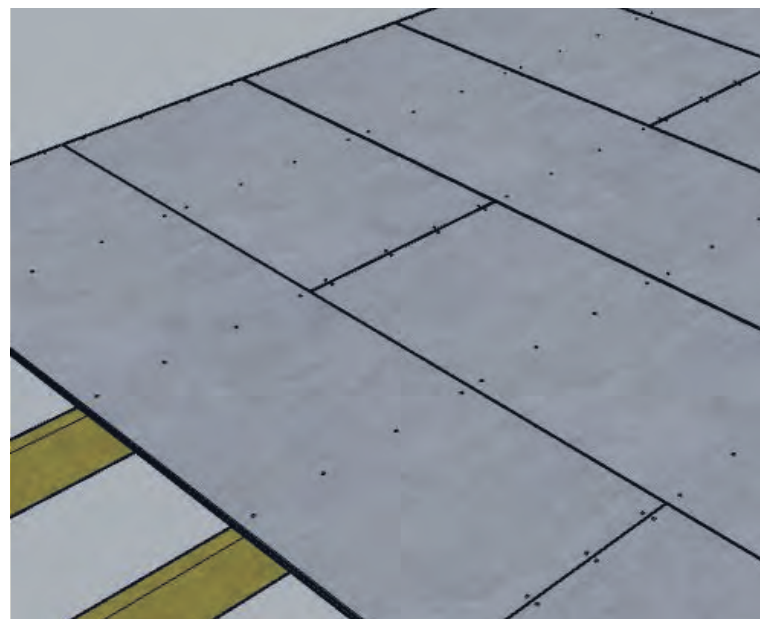
The following precautions are recommended when handling City Timber panels for installation.

- Fibre reinforced cement sheets contain silicates. The sheets are inert and non-harmful in the whole form. However, inhalation of fine dust containing silicates as may be formed from cutting or grinding are known to cause chronic lung disease.
- It is essential that all cutting and grinding type operations where dust is generated are conducted in a well-ventilated or outdoors area.
- Workers completing the alterations to sheets must wear personal protective equipment (PPE) which includes gloves, goggles and use an AS/NZS1716 P1 filter and refer to Australian/New Zealand Standard 1715:2009 - Selection, Use and Maintenance of Respiratory Protective Equipment.
- Cutting tools and stations should ideally have an airborne dust extraction system.
- Other workers should stay upwind and away from the areas where dust is generated.
- Do not dry sweep the dust when cleaning up the work area. First wet down the area with water to suppress airborne dust formation before sweeping up the residues.
- Ensure that the site is free of trip and fall hazards before moving the sheets to the required locations. Ensure that scaffolding and fall protection measures are in place if working at height.
- Fibre cement flooring sheets are heavy and can be awkward to carry. Always use two people per sheet when lifting and moving the product.
- Take care when carrying and moving sheets not to damage the corners or tongue and groove profiles.
- Do not drop sheets into place and this may cause damage and cracks.
- A cross wind can exert considerable force on sheets while being carried. Avoid carrying or craning sheets during strong winds. Ensure that other personnel are at a safe distance and not below the area when placing sheets in the desired locations.
- Use power tools correctly according to the manufacturer's instructions when working on cement sheets. Use cutting blades appropriate for cement products such as Diablo PCD fibre cement blades.
- Ensure that sheets are properly supported for cutting to length or width.

INSTALLATION

Measure the area to be covered carefully and work out the best sheet arrangements considering joist spacings, minimum sheet width and the need for control joints as detailed below.

- Sub-structure pre-inspection. Particularly if laying sheets over a pre-existing sub-structure, check for any high points, unevenness of level or protruding fixings or debris on the bearing surfaces on which the sheets will be set and which may prevent the sheets from forming a continuous level platform. Correct any such instances as required.
- Lay the sheets with the lengths (tongue and groove edges) perpendicular to the direction of the supporting joists and stagger the sheets so that the long sides overlap the adjoining sheets as shown overleaf.

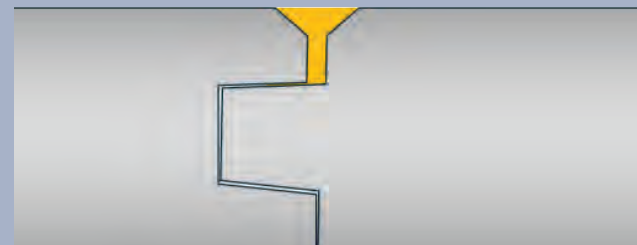


Brick pattern sheet placement as recommended. Example shown is 2400 mm x 22 mm thick sheets on 600 mm centre joists

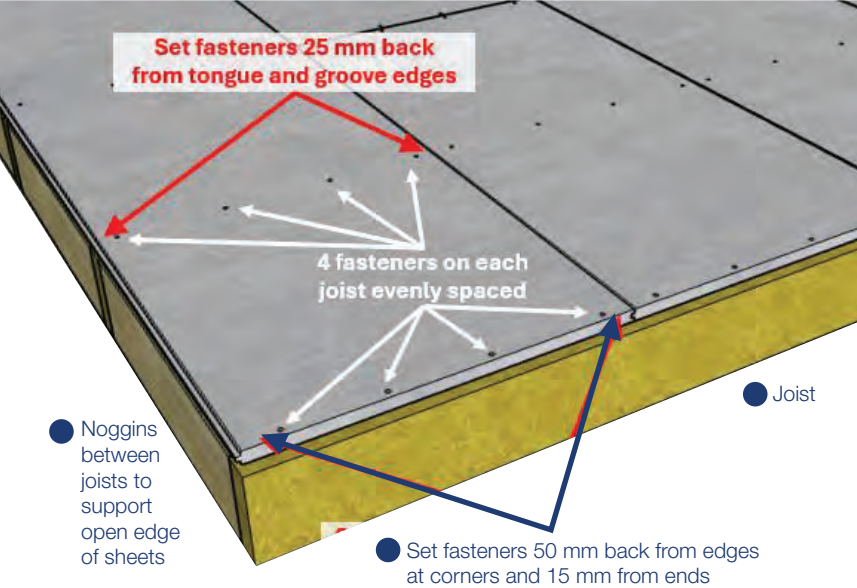
- The ends of the sheets must always be supported by a joist and sheet ends must have at least 20 mm bearing length on the joist supports. Minimum recommended joist width is 42 mm. The tongue and groove joints on the long edges will adequately stabilise the adjoining sheets between joists.
- The long tongue and groove edges if not set into another sheet as detailed need to be supported on a boundary joist or noggins as shown overleaf.
- For use with soft final floor surfaces such as vinyl or carpet, lay the sheets with the tongue and groove V notch facing down as shown. For hard floor surfaces such as tiles or engineered wood panels, parquetierie and similar, the V notch and gap can be facing upwards and filled with sealant as shown (not to scale).
- Lay a bead of construction adhesive suitable for fibre cement sheets and the joist material (timber or steel) to the joist tops and in the tongue and groove joints before pressing the sheets into place.
- It is recommended to leave a small gap (1 – 2 mm) between the sheet ends. The tongue and groove joints can be butt joined together.
- It is recommended not to install the line of fasteners on the open tongue or groove edges until the next line of sheets is placed down and pressed into position. This may make it easier to fully engage the tongue and groove joints with the existing and new sheets. The fasteners on the tongue and groove edges of both sheets can then be set.
- Control joints (5 mm wide) are recommended at 4.8 meter spacing along sheet lengths (for 2.4 meter length sheets) or 5.4 meter spacing (for 2.7 meter length sheets) to allow for movement. See details of control joints overleaf. Control joints may require a double joist.
- Fibre cement sheets can be affixed to timber or steel joists. For timber, LVL and I-joists, 10 gram x 50 mm countersunk rib head type screws are recommended. Stainless steel (304 or 316) is recommended for outdoor platforms or floors in wet areas or if the joist timbers are H3 treated.
- With steel joists, 10 gram x 40 mm countersunk self-embedding screws for fixing to metal are recommended. Steel framing must be in accordance with the NASH standard and be a minimum of 50 mm in width and from 0.75 mm to 1.6 mm BMT (base metal thickness).
- Galvanised 50 mm ring shanked or screw shanked nails can also be used for fixing to timber or LVL substrates. Nail guns can be used but confirm suitability with the nail gun manufacturer and the nail supplier.
- Do not over-drive screws as this may damage the edges or weaken the connection to the under-structure. Drive screws so that they are just below the sheet surface as shown in the joint details.
- Four evenly spaced fasteners (at approximately 200 mm centres) are recommended for attachment on each joist. For sheet ends, locate fasteners about 15 mm from the sheet ends and 50 mm in from the tongue and groove edges at the corners to prevent splitting or breaking out the edges. For the tongue and groove edges on intermediate joists, allow 25 mm inset from the edge for location of fixings. See diagram overleaf for details.
- For sheets to be cut down to reduced width, the minimum recommended width is 200 mm for normal residential and light commercial situations. A minimum width of 300 mm is recommended for high load situations. As outlined initially, check the total width of the floor and ensure that the final sheet section width required will not be too narrow. This may mean trimming the first row of sheets to allow sufficient sheet width on the other side of the area.
- Ensure that all sheets span at least 3 joists. A sheet spanning between two joists only may exhibit excessive deflection with load.



Soft flooring orientation – notch down

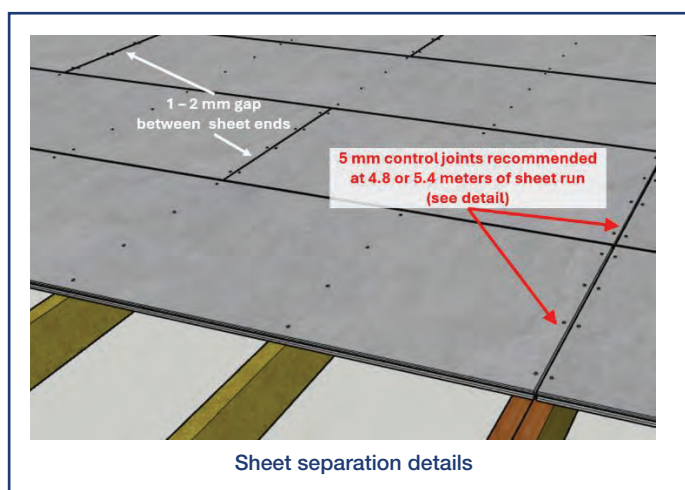


Hard flooring orientation – notch up facing

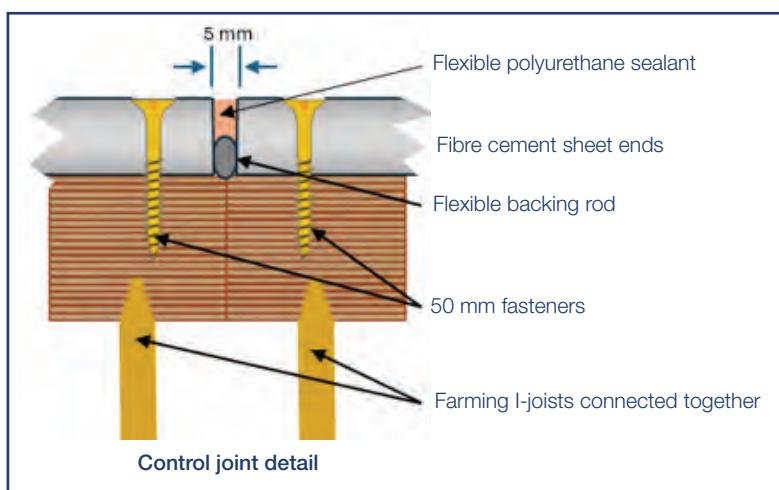


Fastener placement details

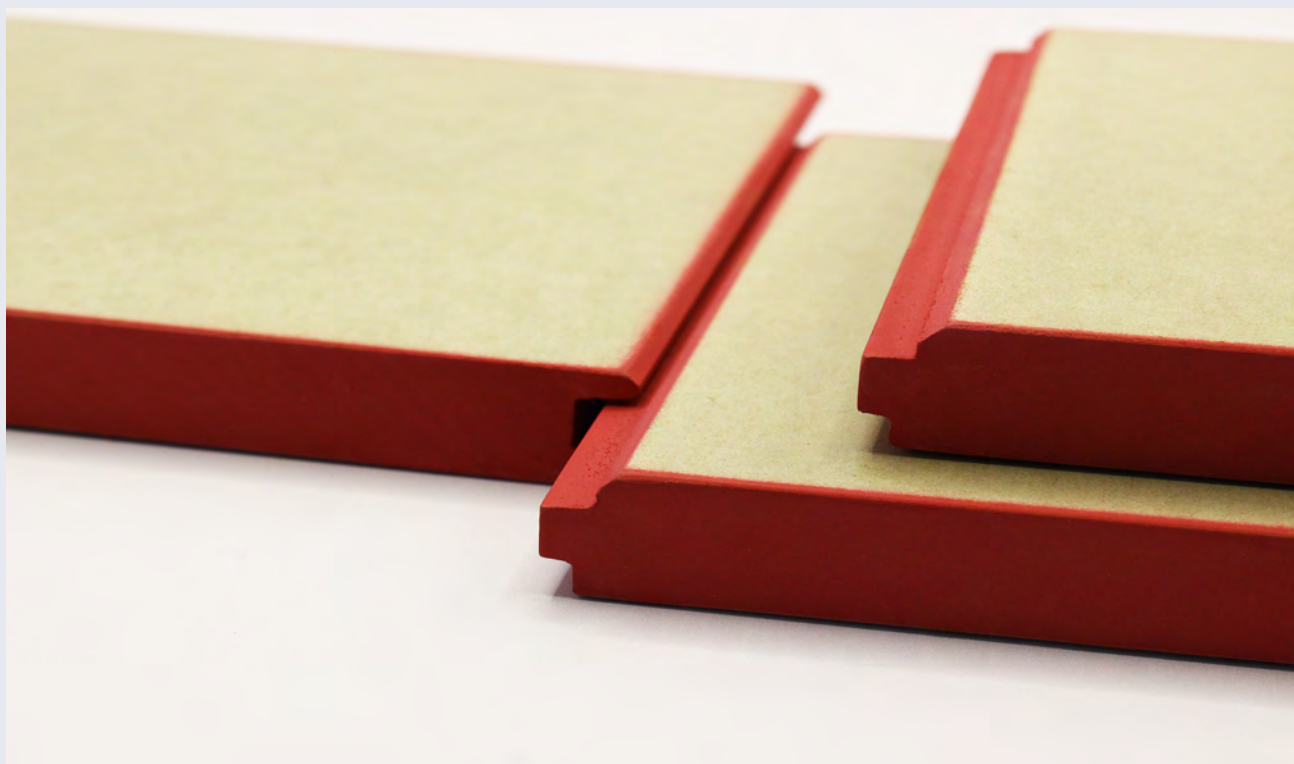
■ When the all the flooring sheets have been set, check the surface for any protruding screw heads, uneven edges or high points. Grind down any such uneven or high points to make a smooth platform. Fill in any gaps, notches and seal over fasteners with a flexible filler such as Selleys Pro-Spec Flexi-Fill or similar. Seal the finished floor surface with a suitable flexible sealant for fibre cement sheets such as Cemex Aquastop or similar.



Sheet separation details



Control joint detail



WATER MANAGEMENT

During construction, where possible sweep pooled water off floor platforms promptly to reduce mould and algae development. On completion it is recommended to clean off any surface residue, algae and mould with a suitable product such as 30 Seconds surface cleaner.

FINISHING

- Determine finishing requirements based on the location and intended final application of the **City Timber FC** flooring.
- Waterproofing membranes or tile screeds may be necessary beneath final flooring materials (e.g., tiles, direct stick vinyl, engineered flooring).
- Consult the system provider to ensure the suitability of the waterproofing system.

For internal wet areas:

- Ensure waterproofing complies with Part 10.2 of the National Construction Code (NCC).
- Only use membranes that meet AS/NZS 4858 standards and are compatible with fibre cement.
- Bond breakers must be installed at all wall/wall, wall/floor, hob/wall junctions and at movement joists where the membrane is bonded to the substrate.
- Bond breakers must be of the type compatible with the flexibility class of the membrane to be used

For external applications:

- Ensure waterproofing membrane conforms to AS 4654.1-2012 and is compatible with fibre cement sheet
- The design and installation process must conform to AS 4654.2-2012
- Apply bond breaker tape over sealant joints in the floor and at wall junctions.
- Incorporate control joints into the flooring and express them through floor tile systems.

City Timber FC has been tested with major external waterproofing companies. Approved specifications can be accessed by scanning the QR code at the back of this guide or visiting the **City Timber FC** product page.



Fibre Cement Board FAQs

Does it contain asbestos?

NO. Sheets do not contain any asbestos and is regularly tested for asbestos.

What about the silica dust?

Silica dust is only generated when sheets are cut, sawed, drilled or processed in similar ways. By following proper safety measures such as working in a well-ventilated area and wearing gloves, goggles, and at least a P2-rated respirator, any potential risks can be minimised.

Can the product be used externally?

YES. As a Type A cellulose cement sheet, our FC Board is designed for external use without needing additional covering or sheet fall. In most cases, the board will be protected with a waterproof membrane. Drainage can be directed through a central sump, ensuring compliance with the National Construction Code (NCC) requirements.

What fixing methods are recommended?

The user guide recommends securing the sheets with screws offering a strong clamping action that minimises sheet movement and ensures better long-term protection for waterproofing membranes. If nails are used, they should be ring shank or twist shank, with extra care taken during installation.

Can it be laid in both brick and stack bond pattern?

YES. A brick (or staggered) pattern is recommended as it provides a more effective floor diaphragm. If a stack bond pattern is used for larger areas, it is advisable to consult the project engineer for any specific requirements.

How do adhesive and sealant differ?

Adhesive is used to attach the sheets to the substrate, typically timber. Sealant, on the other hand is applied to joints, screw heads, and control joints to create a waterproof seal. These can be separate products or a single multipurpose option like Fulaflex 620 or the new Duobond.

Can you rebate flanges into the sheet?

YES. Sheets can be rebated up to 5mm around puddle flanges. This allows the requirements of the NCC to be achieved in relation to not having a step up to the drain point.

What waterproofing systems can be used?

Testing with a number of waterproofing systems has been conducted all showing excellent adhesion results. For more information see product page on our website.

Fire Resistance Level (FRL)

Our FC board is considered non-combustible but it does not have a Fire Resistance Level (FRL) as it is typically part of a complete floor system. The entire system must be assessed and tested to determine an FRL. However, City Timber possesses fire hazard properties that allow it to be used as a floor lining in all building classes.

How often is the product tested?

Each production batch goes through quality checks including tests for dimensions, strengths and water absorption.

Does this product come with a warranty?

This product is covered under Australian Consumer Law, which requires products to be fit for their intended purpose for the expected lifespan. If any issues arise with this product, City Timber will work promptly to resolve them.

