



Acoustic floor systems for
Australian designers



A modern living room with a grey sofa, a large potted plant, and a brick wall. The room features a light-colored brick wall on the left, a large window with white curtains on the right, and a wooden floor. A grey sofa is positioned in the foreground, and a tall potted plant is in the background. The ceiling has recessed lighting.

Managing inter-tenancy noise in medium to high density buildings

Batten & Cradle™ is an acoustic floor system that is suitable for high density residential, commercial, educational and healthcare applications when designing intertenancy floors.

Delivering Certainty



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The System

Independently tested acoustic floor system. Batten & Cradle™ is an independently tested acoustic floor system, utilizing CSR building products that is suitable for high density residential, commercial, educational and healthcare applications. When designing intertenancy floors, this acoustic flooring system has been tested at CSIRO testing facility in Melbourne and verified by PKA Acoustic Consulting.

No reliance on carpet or underlay. When utilizing this system, acoustic performance is achieved with no reliance on carpet or acoustic underlay.

Lightweight system utilizing CSR products. The system uses lightweight, fibre cement Cemintel Constructafloor® which has a flat surface with a tongue and grooved joint to the two long edges of the sheet. Constructafloor Interior flooring can be installed with a pneumatic nail gun for ease of installation. The joint between sheets is filled with flexible sealant to provide a flat surface suitable to accept a wide range of surface finishes e.g. tiles, laminates, carpet. Constructafloor Interior flooring conforms to the requirements of AS/NZS 2908.2 Cellulose – cement products, Part 2: Flat sheets for Type B Category 2.

High value acoustic performance that exceeds building code. The Batten & Cradle™ flooring system is a specialised internal acoustic flooring system which has been designed and developed to achieve high value acoustic performance in multi-level residential and commercial buildings. The system exceeds building code requirements and helps create a quiet environment for your building, workplace or family home.

Acoustically compliant with the NCC (Building Code) airborne and impact sound insulation requirements, as well as achieving AAAC 4 Star Rating.



Tested by CSIRO
Acoustic Laboratory (VIC)



Performance without
carpet and underlay



Suitable for high
density applications

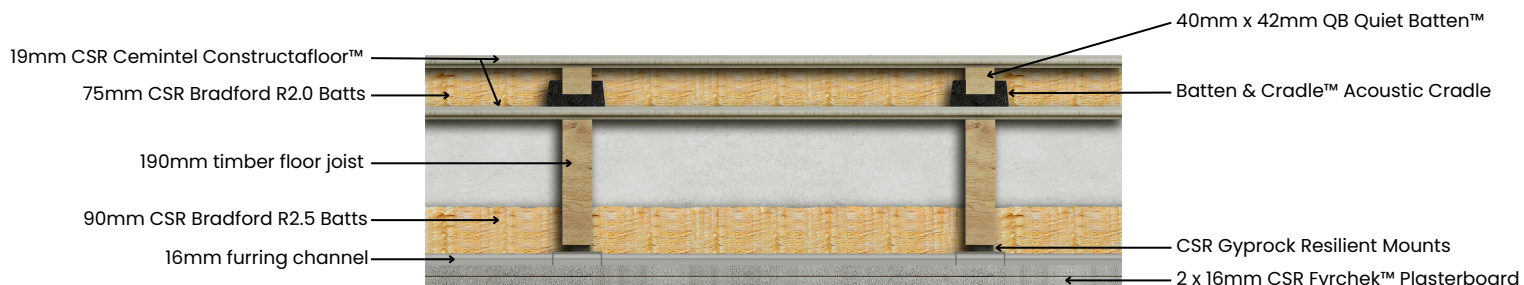


Made from recycled and
sustainably grown materials

Components

The Batten and Cradle™ AcoustiFlor™ System includes the following components:

- 19mm CSR Cemintel Constructafloor™
- Batten & Cradle™ Acoustic Cradle
- 40 x 42 QB Quiet Batten™
- 75mm CSR Bradford R2.0 Batts
- 190mm timber floor joist
- 90mm CSR Bradford R2.5 Batts
- 16mm furring channel
- 90mm CSR Bradford R2.5 Batts
- CSR Gyprock Resilient Mounts
- 2 x 16mm CSR Fyrchek™ Plasterboard
- Acoustic Sealant



Sustainability

Turning *old* tyres into *new* floors

At B&C Systems, our mission was clear from the start; develop products made from recyclable and sustainable materials. To achieve this, we made a bold choice by utilizing recycled rubber tyres as our primary raw material. We recognized the challenge of disposing of old tyres and turned it into an opportunity for innovation. We actively strive to maximize the recyclable and reusable content of our raw materials and are constantly improving our sustainability practices.



Sustainably sourced timber

We have a robust process for selecting suppliers and have partnered with Carter Holt Harvey (CHH) to produce our QB Quiet Batten™ LVL timber battens that are sourced from sustainably grown forests, ensuring a brighter and greener future for generations to come.

Our commitment to preserving the environment while delivering quality products is at the core of our values.

For more information and reports, visit our sustainability page at: battenandcradle.com.au/sustainability



Installation

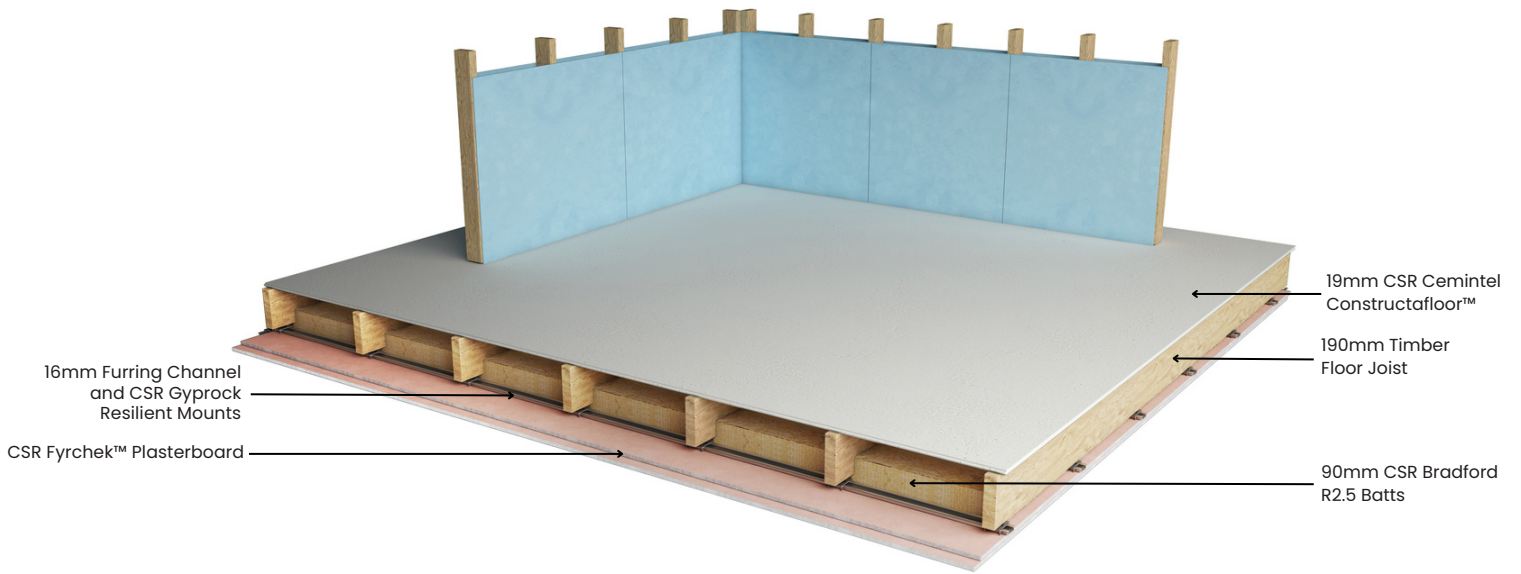
- Position the acoustic cradles on the floor starting from one edge of the room. Acoustic cradle should have a 10mm gap from the wall. The cradles allow the placement of flooring QB Quiet Batten™.
- Acoustic cradles must be placed at 450mm centres maximum along the length of Batten, and Batten rows at 450mm centres. Minimum requirements are 7 cradles/m² of the floor area (refer figure 1.2).
- Acoustic Cradles and QB Quiet Batten™ are placed along the perimeter of the room with a 10mm gap from the internal lining.
- Place the QB Quiet Batten™ into the Acoustic cradle. The maximum spacing between the QB Quiet Batten™ must not exceed 450mm centres. The battens can run in either direction of the room but must have a 10mm gap between the wall and batten.
- Acoustic insulation 50 - 75mm thick (density 9.6kg/m³) must be placed in between the batten and cradles to create a damping effect (refer figure 1.3).
- Lay 19mm CSR Cemintel Constructafloor™ across the batten and fix to the battens using a 45mm x 8g self-tapping steel screws. Fixing centres are 150mm for sheet perimeter and 200mm centre of sheet (intermediate area) (refer figure 1.4).
- Allow a 5-8mm gap between the CSR Cemintel Constructafloor™ and the wall lining around the perimeter. The gap is filled sealed with acoustic sealant (refer figures 1.4).
- Gluing of CSR Cemintel Constructafloor™ panels to QB Quiet Batten™ is not mandatory.
- Ensure cradles are installed as per the Batten & Cradle™ Flooring Systems installation manual. Shimming may be required to achieve best results.

General Specification	
Batten row centres	450mm
Cradle centres	450mm
Standard Batten size mm	42mm x 40mm (other sizes available on request)
Uniform loads (kPa)	4.0
Concentrated loads (kN)	3.6

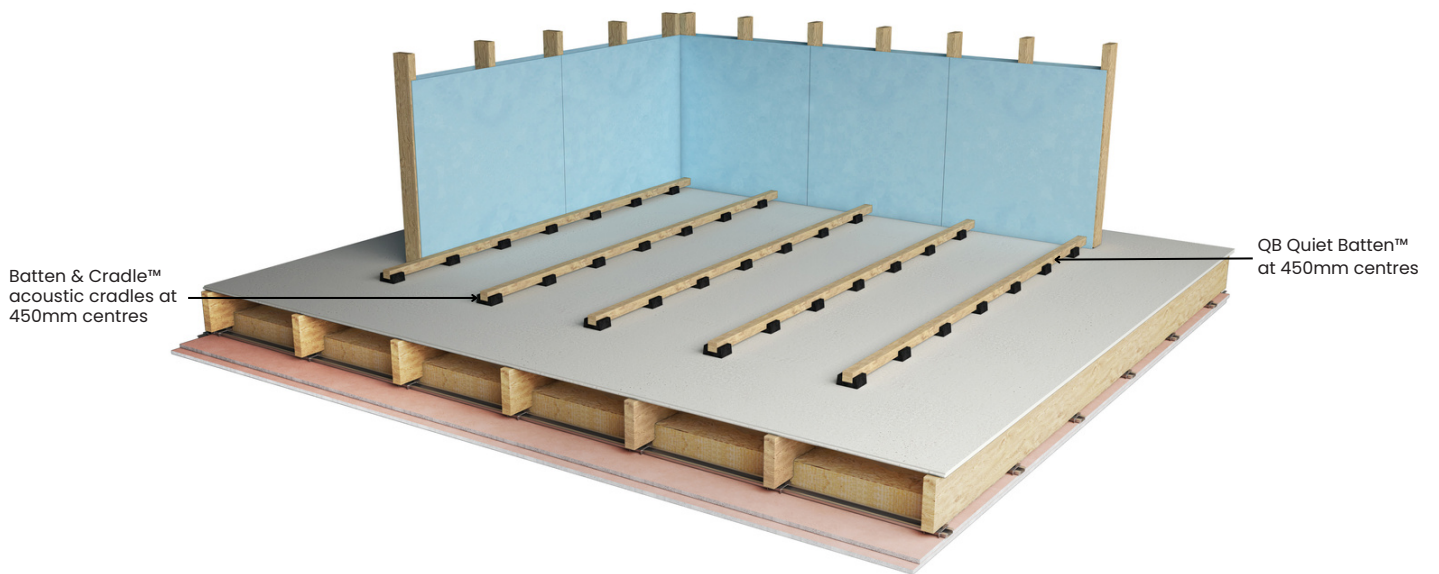


Installation Process

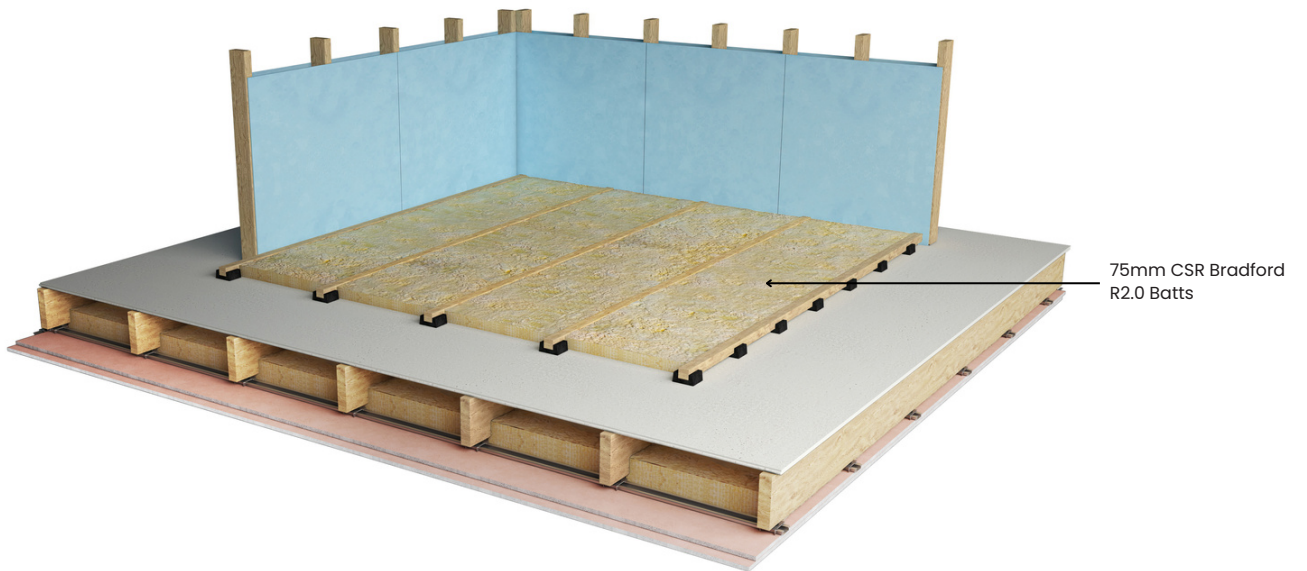
1 Figure 1.1: Cemintel layer



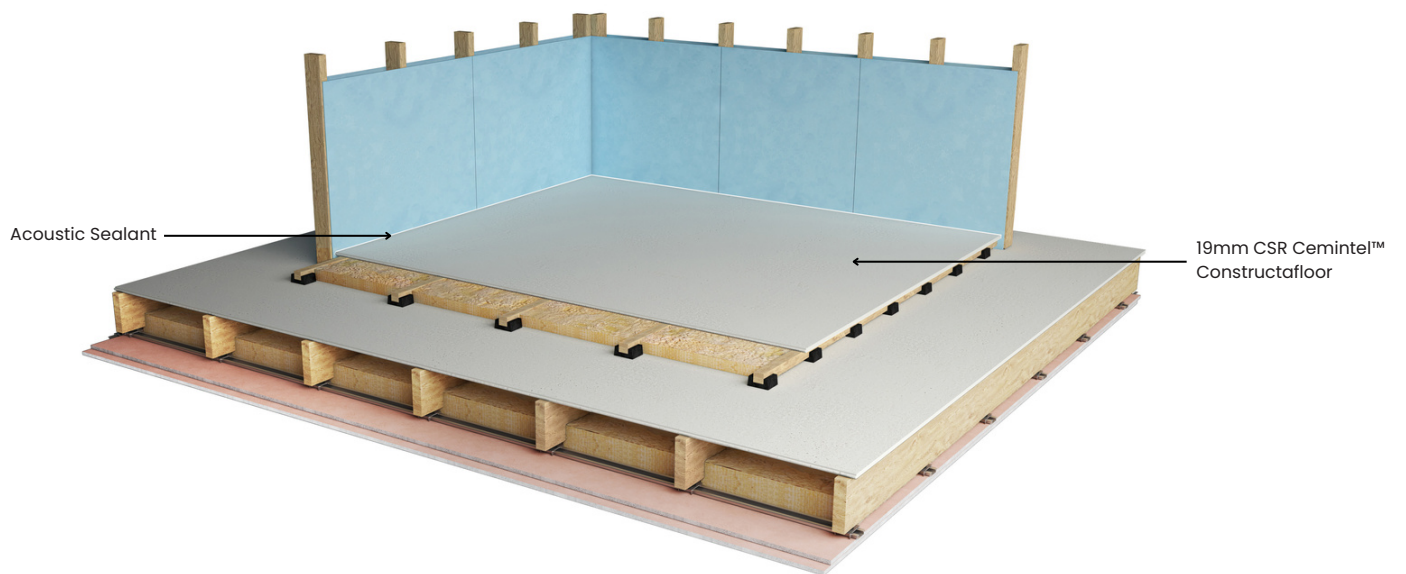
2 Figure 1.2: Batten & Cradle™ Flooring System set up



3 **Figure 1.3:** 75mm thick insulation, minimum density of 9.6kgs/m³ minimum

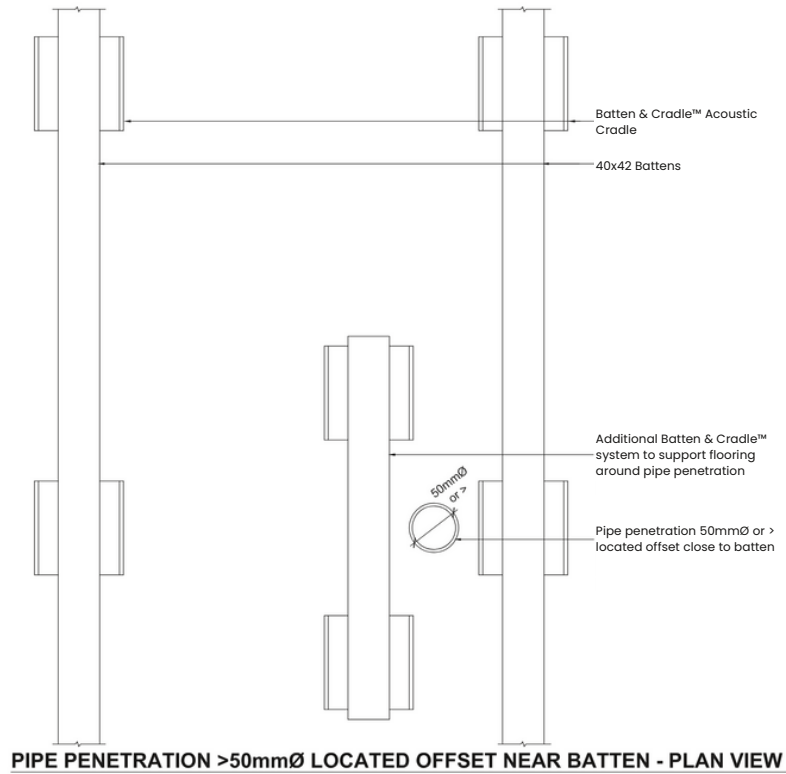


4 **Figure 1.4:** 19mm CSR Cemintel Constructafloor™ installation



Penetrations

Figure 1.5: Pipe Penetration Details – Structural Support



Floor penetrations

For smooth clean cut circular holes:

- For pipe penetrations through the floor cut a 10mm oversize hole through the CSR Cemintel™ Constructafloor. Fit the pipe through the penetration and then seal around with an acoustic sealant.

For irregular holes:

- Use of a jigsaw or reciprocating saw.
- Small rectangle or circular holes can be cut by drilling a series of small holes around the perimeter of the hole then tapping out the waste from the sheet face.

Figure 1.6

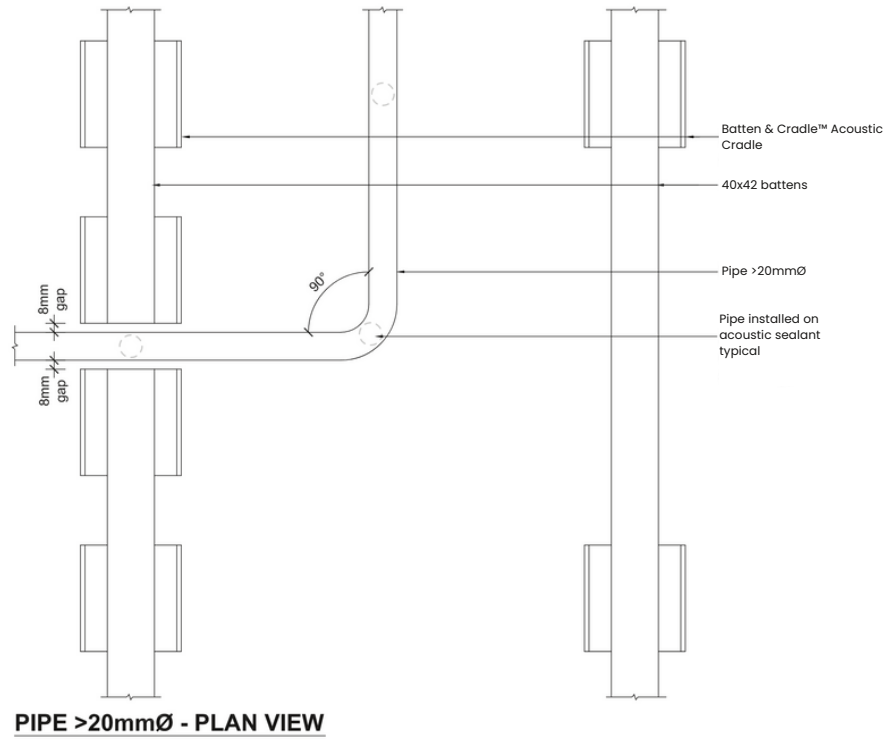
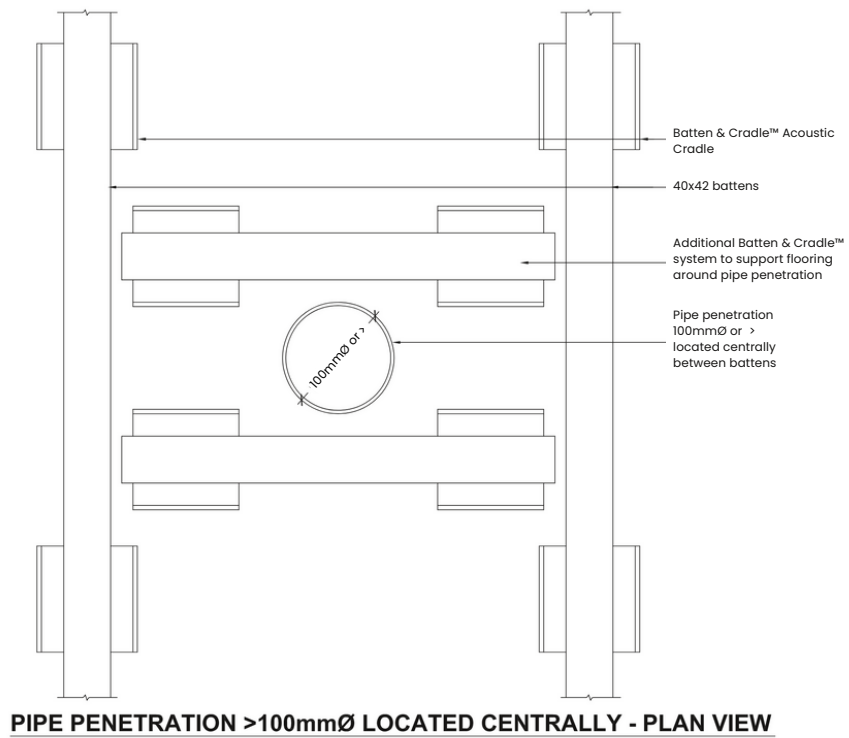


Figure 1.7



Acoustic Performance

The Batten & Cradle Flooring system was acoustically tested at CSIRO Acoustic Laboratory [Ref: TL765, INR294 dated November 2022] with ongoing acoustic advice by PKA Acoustic Consulting.

Floor Substrate	Type	Test Result	AAAC Rating
19mm CSR Cemintel Constructafloor™	Airborne	R_w 72 R_w+C_{tr} 59	5 Star
	Impact	$L_{n,w}$ 48	4 Star
19mm particleboard	Airborne	R_w 68 R_w+C_{tr} 56	5 Star
	Impact	$L_{n,w}$ 51	3 Star

*Acoustic test reports can be provided upon request.

Fire Performance	FRR 60/60/60
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Handling & Storage

Storage: All Constructafloor sheets must be stacked flat, clear of the ground and supported at 300mm maximum centres on a level platform. All system components (QB Quiet Batten, Batten & Cradle™ Acoustic Cradle, Batts, CSR Cemintel Constructafloor) are required to be kept dry. Sheets must be dry prior to fixing, hence if it is necessary to store outside, the product must be protected from the weather.

Handling: Constructafloor sheets must be treated with care during handling so as to avoid damage to edges. Sheets should be carried horizontally on edge by two people.

Cutting: Sheets should be cut using a power saw. Cemintel recommends using the Makita Plunge Cut Saw and FESTO TS 55 EBQ Plunge Cut Saw with guide rail and appropriate blade, together with the appropriate dust extraction system.

Penetrations: Penetrations in sheets may be cut or drilled prior to installation. Cut from the back or drill from the front. Cut penetrations oversize by 8-10mm all around. Mask, prime and fill gaps with sealant in accordance with recommended methods and products.

Design Responsibility

Design responsibility lies with the building owner and the professionals that they engage. The specifier for the project must ensure that the details in the specification for their individual projects are appropriate for the intended application. This includes the design and specification of structural, acoustic and fire systems associated with the Batten and Cradle™ AcustiFlor™ System.

Acoustic performance for each installation is site specific and the level of acoustic performance achieved will require the customer's own acoustic engineer's assessment of all factors affecting acoustic performance. The customer's own acoustic engineer must set the level of acoustic performance to be expected.

For further information, refer to:

- <https://www.battenandcradle.com.au/>
- <https://www.csr.com.au/>

Product Warranty

Batten and Cradle™ Flooring system

Refer to Batten and Cradle product warranty available at:
<https://www.battenandcradle.com.au/warranties>

CSR Products

The full CSR product warranties are available for download at
[cemintel.com.au](https://www.cemintel.com.au)

Trademarks

- CSR Bradford, CSR Cemintel Constructafloor™, CSR Gyprock Resilient Mounts and CSR Fyrchek™ Plasterboard are all trademarks of CSR Limited.
- The Batten & Cradle acoustic flooring system and the Batten & Cradle™, Batten & Cradle™ logo, Batten & Cradle™ Flooring Systems Ltd logo, DekCradle™, AcustiFlor™ and ErgoFlor™ trade marks are the intellectual property of Batten and Cradle Systems Limited. B & C Systems International Limited is the exclusive worldwide licensee of this intellectual property.
- QB Quiet Batten™ is a trademark of Batten & Cradle™ Systems and Carter Holt Harvey LVL Limited.

Limitations

The information contained in this document is current as of June 2023 and is based on data available to CSR and B&C Systems Australia PTY Ltd. (Batten and Cradle & B&C) at the time of going to print. All images are intended to provide a general impression only and should not be relied upon as an accurate example of products installed in accordance with this document or any local body building consent compliance documents.

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You can visit www.csr.com.au or www.battenandcradle.com.au to obtain current information. CSR and B&C Systems International Ltd have used all reasonable endeavours to ensure the accuracy and reliability of the information contained in this document.

However, to the maximum extent permitted by law, CSR and B&C Systems International Ltd assume no responsibility or liability for any inaccuracies, omissions, or errors in this information nor for any actions taken in reliance on this information.

We recommend that a qualified acoustic consultant is engaged on every application to specify the most suitable solution.



System Benefits



Independently
tested & verified



Premium performance
without carpet and
underlay



Simple to install



End to end sustainability
approach



Suitable for high
density applications



Tested systems available
for CLT and concrete.



Reduces unevenness



15 year warranty

battenandcradle.com.au

Get in touch

For more information about all our systems:

battenandcradle.com.au | 1800 849 138



battenandcradle.com.au

