

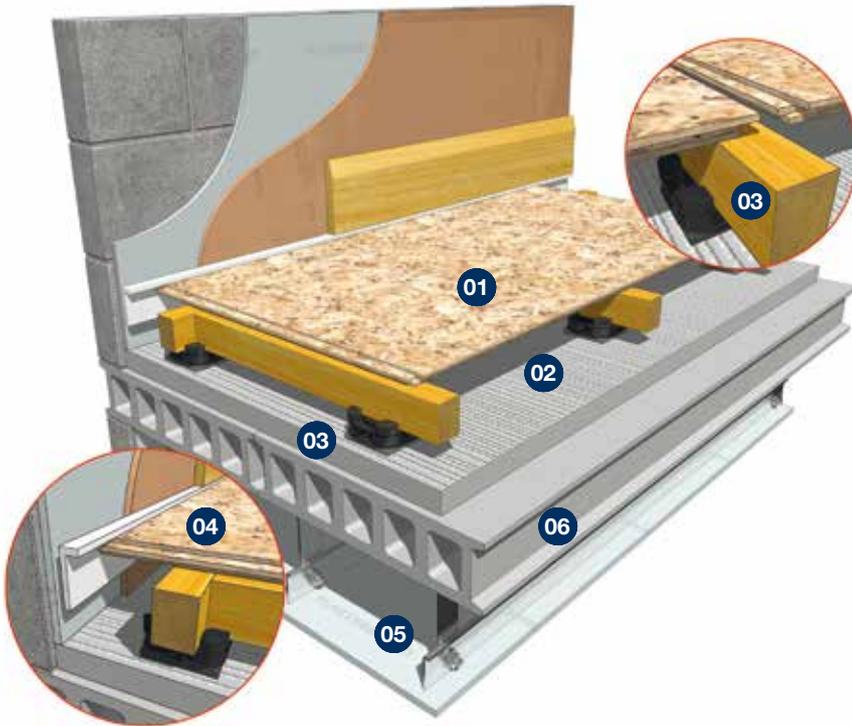
# Acoustic Cradle Levelling System

RESILIENT CRADLE & BATTEN FLOORING SOLUTION



NBS Source  
PARTNER

Datasheet 52



- 01 Minimum 18mm t&g flooring board
- 02 40mm min directly applied sand & cement or proprietary screed (min 80kg/m<sup>2</sup>)
- 03 JCW Acoustic Cradle Levelling System
- 04 JCW L Shaped or Flat Perimeter Edging Strip detail
- 05 Metal Ceiling System with 100mm (min) void and 1 layer of 8kgs/m<sup>2</sup> gypsum based board
- 06 150mm (min) Concrete Floor

**Note:** Beam & Block floor type E-FC-7 requires Mineral Wool Fibre between the battens of 25mm (min) 10-36 kg/m<sup>3</sup>.

CONTACT TECHNICAL DEPARTMENT FOR GUIDANCE ON CRADLE AND BATTEN CENTRES

JCW Acoustic Cradle Levelling System

FFT-2 Resilient Cradle and Batten System

### Robust Detail (Registered Sites)

- Verified independent UKAS accredited laboratory test data meets the Robust Detail requirements. Pre-completion Testing is not required
- Acoustic Cradles = FFT-2 Floating Floor Types: E-FC-1, E-FC-2 & E-FS-1. (Beam & Block floor type E-FC-7 floor specification varies, refer to Robust Details Handbook for full specification).

### PCT/PT & Refurbishment

- Verified independent UKAS accredited laboratory test data is based on the floor structure illustrated above
- It is essential all components are correctly installed and detailed to meet the requirements where Pre-completion Sound Testing is required

Reduction in Impact Sound Transmission:  $\Delta L_w$  28 dB

### Method of Compliance

Robust Detail, PCT/PT (Scotland)

### Ancillary Products

- 1130 JCW Flat Edging Strip (50 Lm x 150mm x 5mm) or
- 1170 JCW Universal L Shaped Strip (2 Lm x 53mm x 23mm)
- 1196 JCW Approved Adhesive (1 Litre)
- 1027 JCW Acoustic Sealant (310ml)



1. 2mm Packers - Product Code: 1025
2. Acoustic Cradle - Product Code: 1023
3. 20mm Riser - Product Code: 1026
4. 10mm Acoustic Rubber Pad (Supplied with Product Code: 1290)

Domestic Dwellings | Offices | Hotels | Conference Centres | Leisure Centres | Schools | Restaurants | Showrooms



Unit 32-34 Waters Meeting Development  
Britannia Way, Bolton, BL2 2HH

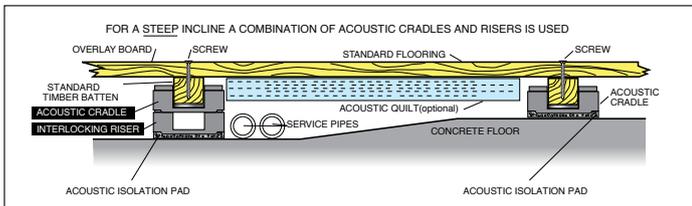
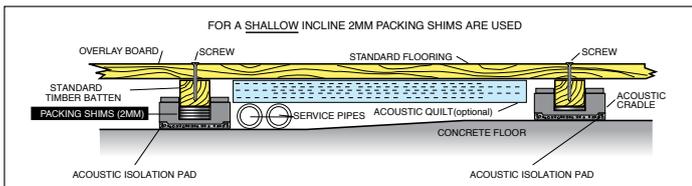
Sales helpline **01204 548400**  
8.30am - 5.00pm Monday to Friday

sales@acoustic-supplies.com  
[www.acoustic-supplies.com](http://www.acoustic-supplies.com)

## Unique Acoustic Stacking System for uneven concrete subfloors

This resilient cradle and batten system is specially designed for uneven sub-floors so common in traditional constructions. The JCW Acoustic Cradle Levelling System has been developed as a quick and easy way to level cambered, stepped and uneven sub-floors. The system involves the use of an acoustic pad, standardised moulded components and an acoustic perimeter edging strip, either with or without an acoustic quilt between the battens. The result is a resilient timber floating floor over a solid sub-floor, with accommodation for services and offering much improved resistance to the transmission of impact and airborne sound.

### Typical Layout



Part E compliant.

Complies with Robust Detail FFT-2 Floating Floor types E-FC-1, E-FC-2, EFC-7 and E-FS-1 (floor specification varies, refer to Robust Details Handbook for full specification).

The JCW Acoustic Cradle Levelling System is a quick and simple way to level uneven concrete & timber subfloors

Domestic Dwellings | Offices | Hotels | Conference Centres | Leisure Centres | Schools | Restaurants | Showrooms



Unit 32-34 Waters Meeting Development  
Britannia Way, Bolton, BL2 2HH

Sales helpline **01204 548400**  
8.30am - 5.00pm Monday to Friday

sales@acoustic-supplies.com  
[www.acoustic-supplies.com](http://www.acoustic-supplies.com)

## System Detail and Benefits

- Unique interlocking cradle and riser combinations allow vast range of void depths to be achieved.
- 2mm Packing Shims permit ultimate flexibility in final height adjustment.
- Combination of cradles, risers and timber supports provide a variety of raised floor designs.
- Easily adjusted to accommodate varying services requirements.
- Complies with the requirements of Approved Document E (England and Wales) and Section 5 (Scotland).
- Robust Details FFT-2 resilient cradle and batten system.
- Simple, easy to understand, easy to use system.
- Cost effective and sustainable using re-cycled materials and standard timber building products.



## How the JCW Acoustic Cradle Levelling System works

The system consists of:

- A pre-cut square of Acoustic Pad, 10mm thick, which is the base for the cradle system.
- This Acoustic Pad is the only contact point the system has with the sub-floor, acoustically isolating the Acoustic Cradle Levelling System from the surrounding construction and providing resistance to the transmission of impact sound.
- The Acoustic Cradle is precision moulded in recycled polypropylene, fits neatly over the Acoustic Pad.
- The Cradle is used to support timber battens up to 47mm wide which in turn support the flooring deck.
- The acoustic integrity of the system reduces the transmission of impact and airborne sound through concrete floors by acoustically isolating the bearing surface from the structural floor.
- The Cradle accommodates 2mm Packing Shims for total flexibility in final height adjustment.
- For steeper inclines and larger voids, an Interlocking Riser is used in combination with the Cradle to give the additional height required.
- The resistance to airborne sound depends partly on the mass of the concrete sub-floor and floating layer and partly on other sound absorbent materials used in the overall construction.

## Design Considerations

The JCW Cradle Levelling System should be installed at the spacings shown in the table below. These figures are based on domestic loadings.

**Note:** Where high loads are expected (e.g. in kitchens, bathrooms, utility rooms and common corridors), battens should be spaced at 300mm with cradles at 300mm centres.

Additionally, cross battens should be used beneath known heavier than average weight appliances, such as American Freezers, Range style cookers etc.

At perimeters a continuous run of battens should be installed 50mm from the wall, with cradles spaced at 400mm centres. At door openings the edges of the flooring deck should be supported with an additional batten.

**Any party wall partitions should be built off the structural concrete slab, not the flooring deck.**



Domestic Dwellings | Offices | Hotels | Conference Centres | Leisure Centres | Schools | Restaurants | Showrooms



Unit 32-34 Waters Meeting Development  
Britannia Way, Bolton, BL2 2HH

Sales helpline **01204 548400**  
8.30am - 5.00pm Monday to Friday

sales@acoustic-supplies.com  
[www.acoustic-supplies.com](http://www.acoustic-supplies.com)

## Recommended Cradle Spacings

Flooring Type	Batten Dimensions	Cradle Centres	Batten Centres
18mm Chipboard	47 x 47mm	600mm	400mm
22mm Chipboard	47 x 47mm	600mm	600mm max
18mm Chipboard	21 x 47mm	300mm	400mm
22mm Chipboard	21 x 47mm	300mm	600mm max

(All dimensions quoted above are for planed timber)

## Summary

- Simplicity itself.
- Only a maximum of four different components needed for any application.
- Only one size of packer needed.
- Multiple height possibilities achievable.
- No time wasted calculating quantities needed on site.
- Made from environmentally sensitive, recyclable materials.
- Can alternatively be used as a system to accommodate services or as a raised floor system to provide the required amount of underfloor space.

## Technical Specifications

- The **Acoustic Rubber Pad**, 10mm thick, is manufactured from recycled rubber tyres.
- The **Acoustic Cradle Levelling System** is manufactured from recyclable plastics. They provide height increments from 11mm, excluding timber batten, when used on their own. The cradle design also allows the system to accept four batten ends, a useful four way support method.
- Adding the interlocking **Riser** provides 20mm height increments and these can be used in multiples to enable major level differences to be accommodated.
- The **Packing Shims**, which are 2mm thick and fit snugly within the cradle, permit the ultimate flexibility in height adjustment.
- The system is flexible enough to be able to accept batten heights from 21mm to 100mm (please ask for details if extra heights are required).
- It is recommended that a 25mm thick mineral wool quilt (10- 36kg/m<sup>3</sup> density) is placed between the cradles and battens to further enhance acoustic performance.
- Tests have shown that when the quilt is omitted, the system is still capable of satisfying the minimum requirements of the Building Regulations.
- Where high thermal insulation is a priority the self locking Level Pod Cradle can be stacked onto several Risers to provide a significant void for the application of mineral wool insulation.
- Final floor finishes can be anything required including low cost 18mm thick T&G chipboard, plywood or hardwood.
- To ensure the acoustic integrity and performance of the system installation, a 5mm thick closed cell polyethylene **JCW Perimeter Edging Strip** should be fitted between the wall and the finished floor surface.
- Any skirting boards should be fixed isolated from the floor by the **JCW Perimeter Edging Strip**.



Domestic Dwellings | Offices | Hotels | Conference Centres | Leisure Centres | Schools | Restaurants | Showrooms



Unit 32-34 Waters Meeting Development  
Britannia Way, Bolton, BL2 2HH

Sales helpline **01204 548400**  
8.30am - 5.00pm Monday to Friday

sales@acoustic-supplies.com  
[www.acoustic-supplies.com](http://www.acoustic-supplies.com)

## Building Regulations

Compliance with Approved Document E (England & Wales) can be shown by Pre-Completion Testing on site.

Compliance with Robust Details FFT-2 Impact Sound Improvement test data.

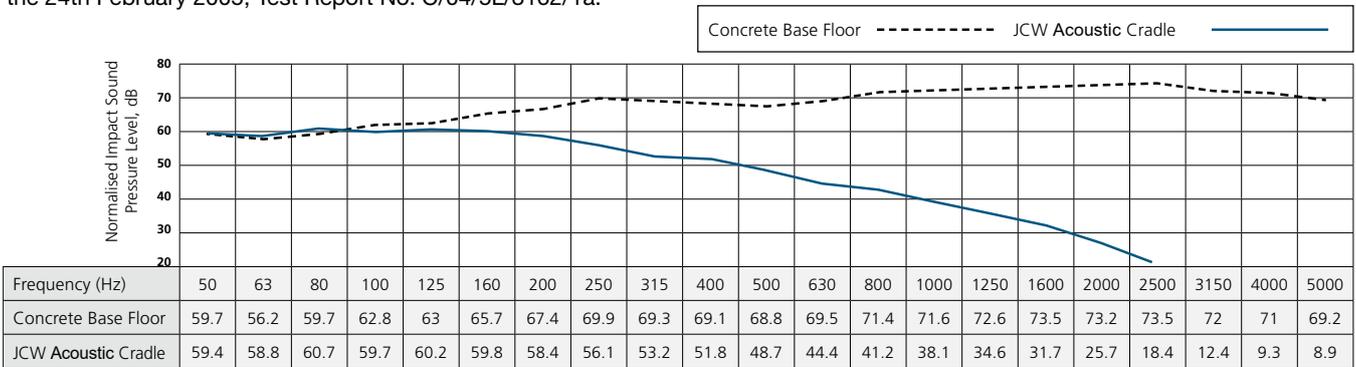
Compliance with Section 5 (Scotland) can be shown by Performance Testing on site.

### Impact Sound Insulation

The table below represents a comparison of the impact sound insulation offered by the floating floor system as tested on a concrete floor. The tests were carried out on a 150mm deep hollowcore precast concrete plank with a 20mm sand and cement screed total mass of 335kg/m<sup>2</sup>. The test sample consisted of a 18mm tongue and groove chipboard with 45 x 45mm battens on the JCW Acoustic Cradle Levelling System with 50mm mineral wool insulation between battens. Tests were carried out by Sound Research Laboratories, UKAS accredited test laboratory No. 0444 on the 24th February 2005, Test Report No. C/04/5L/3162/1a.

### Acoustic Performance dB

Concrete Base Floor (Ln,w)	79 dB
JCW Acoustic Cradle (Ln,w)	51 dB
Improvement (Robust Details Part E minimum requirement: +17)	+28 dB

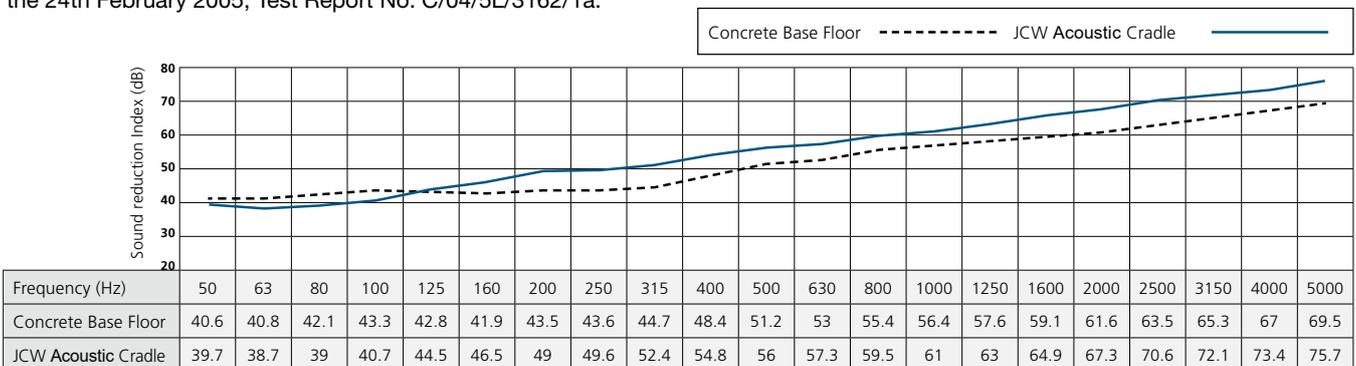


### Airborne Sound Insulation

The table below represents a comparison of the airborne sound insulation offered by the floating floor system as tested on a concrete floor. The tests were carried out on a 150mm deep hollowcore precast concrete plank with a 20mm sand and cement screed total mass of 335kg/m<sup>2</sup>. The test sample consisted of a 18mm tongue and groove chipboard with 45 x 45mm battens on JCW Acoustic Cradle Levelling System with 50mm mineral wool insulation between battens. Tests were carried out by Sound Research Laboratories, UKAS accredited test laboratory No. 0444 on the 24th February 2005, Test Report No. C/04/5L/3162/1a.

### Acoustic Performance dB

Concrete Base Floor (Rw + Ctr)	51 dB
JCW Acoustic Cradle (Rw + Ctr)	55 dB
Improvement (Airborne test data not required by Robust Details Part E)	+4 dB



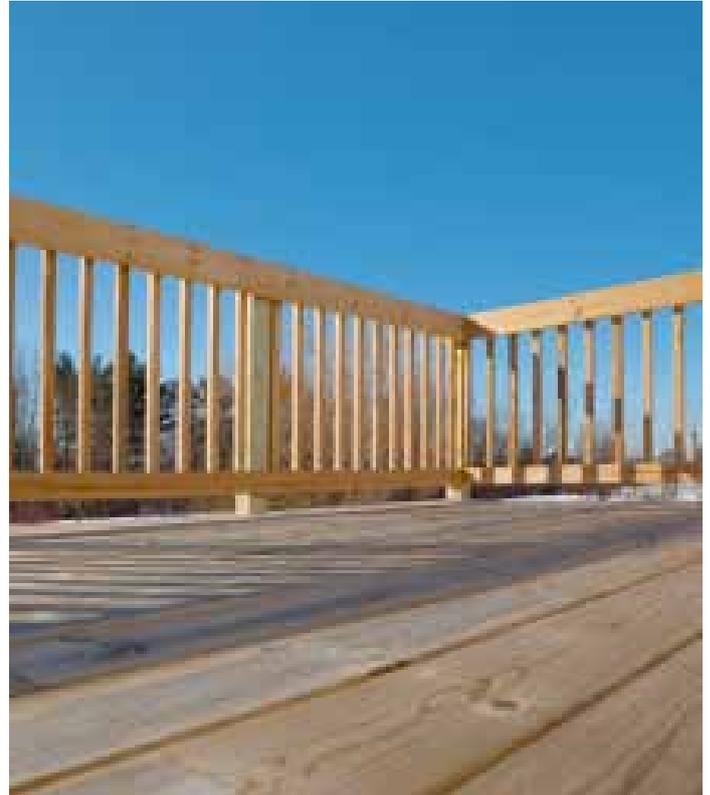
## Unique Levelling System for both external and internal sub-floors

The JCW Acoustic Cradle Levelling System has been developed as a totally flexible way to quickly and easily level uneven sub-floors and will provide good acoustic separation between the base floor.

Whilst the system is primarily used internally as a Robust Details acoustic solution for uneven concrete sub-floors, its unique stacking technology and rot proof construction make the system ideally suitable for creating a level base to carry every type of external decking application, including balconies and bridge decks.

The system has been successfully installed by builders and developers across a range of external commercial, domestic and leisure applications where it provides a level base which is both robust and durable for the application of treated timber support battens and all types of specialist and proprietary decking overlay boards.

The JCW Acoustic Cradle Levelling System has the strength to easily manage all widths, thicknesses and lengths of structural timber deck boards.



### Summary

- Simplicity itself, quick and easy to install.
- Multiple height possibilities achievable.
- Weather proof, rot proof, damp proof.
- Strong, robust, flexible.
- Made from environmentally sensitive, recyclable materials.
- Can be used as a system to accommodate services or as a raised floor system to provide underfloor space.

### Case Histories

**Telford Homes:** Tredegar Road, Bow, London

**Telford Homes:** Papermill Place, Walthamstow, London

### About JCW Acoustic Supplies

JCW Acoustic Supplies is renowned for the high quality of its acoustic flooring products and the professionalism of its support and product development teams.

We can provide all the information and advice you need to ensure all technical and legal requirements are satisfied.

**For further details, call Sales at JCW Acoustic Supplies on the Sales helpline number below**

**Disclaimer:** The product and installation information contained in this Data Sheet and General Installation Guide is to the best of our knowledge correct. Please contact us or the relevant product manufacturer directly prior to starting works, for the latest information to enable confirmation of the specification.

**Please Note: We recommend seeking appropriate advice from the relevant manufacturer of the final floor finish with regards to any additional preparation that may be required.**



Domestic Dwellings | Offices | Hotels | Conference Centres | Leisure Centres | Schools | Restaurants | Showrooms



Unit 32-34 Waters Meeting Development  
Britannia Way, Bolton, BL2 2HH

Sales helpline **01204 548400**  
8.30am - 5.00pm Monday to Friday

sales@acoustic-supplies.com  
[www.acoustic-supplies.com](http://www.acoustic-supplies.com)