

acoustic solutions for buildings



Taking the 'mystery' out of acoustics

Introduction

Isomass Ltd supplies acoustic & soundproofing systems accepted under Approved Document E of the Building Regulations (England & Wales) and Technical Standards Section 5 (Scotland). Acoustic solutions are available for all deck, batten, cradle, screed, wall and ceiling applications. Isomass Ltd's expertise covers all areas of soundproofing standards for acoustic insulation of rooms for residential purposes.

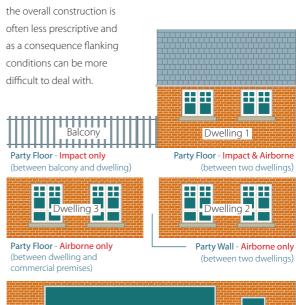


PI-backed, free site inspections

To further enhance the Isomass offer to the architect, developer or builder, a site survey can be conducted to ensure all aspects of the party floor/wall have been considered for the best acoustic performance and provide a written PI (Professional Indemnity Insurance) backed specification (often in the form of an AutoCAD drawing) to fulfil any of the Impact and Airborne Test requirements (see right).

Impact and airborne test requirements

The exploded view house diagram below shows the scope of the Building Regulations. The requirements for conversion (or 'material change of use') are less onerous compared to new build because





Dwelling-houses and flats - performance standards for separating & party walls, separating & party floors, and stairs that have a separating function

Approved Document E Requirements	Airborne sound insulation $D_{nT,W} + C_{tr}$	Impact sound insulation L'nT,w
Purpose built dwelling-houses &		
flats (new build)		
Walls	≥45dB	-
Floors and stairs	≥45dB	≤62dB
Dwelling-houses & flats formed by		
material change of use (conversion	n)	
Walls	≥43dB	-
Floors and stairs	≥43dB	≤64dB

Product Selector

This brochure has been designed for simple selection of Isomass products.

The selector (right) shows which products can be used to demonstrate compliance with Requirement E1 (new build and material change of use) to Approved Document E 2003 and amendments in 2004 and 2010.

It also shows which products are covered by the New Build Robust Details Certification Scheme and those used to address domestic noise (not covered by Approved Document E).

Icons have been used throughout, to make product selection even easier.

Applications



Ideal for treating Conversions (described as change of use within Approved Document E).



Ideal for treating New Build (masonry, timber or steel frame).



Ideal for treating Refurbishments.



Ideal for treating Listed Buildings requiring minimal structural change.

Pre Completion Testing / Robust Details



Suitable for E1 New Build applications.



Suitable for E1 Change of Use applications.



Suitable for Robust Details New Build applications.



Compliance with Code of Sustainable Homes possible.

Not subject to Pre Completion Testing



Suitable for Domestic Noise applications and vibration issues (where stated).

Separating		• Isocheck 28T, 24T & 15T04
	floors:	Isocheck 32T05
		• Isocheck 37T06
		• Isocheck ULTIMO07
1=		• Isocheck PRIMO18 - 19
NEW	BUILD	• Econocheck Deep Batten20
		• Isocheck Shallow Batten21
		• Isocheck Cradle22 - 23
		• Isocheck 27C, 23C & 14C24
		• Isocheck Re-Mat 3 & 525
		• Econocheck XL5 & XL8
	Separating	• Isocheck Decoupling Bar 10
	Walls/	Isocheck Isolation Strip11
	Partitions:	• Isocheck Isowave 23

	Separating	• Isocheck 28T, 24T & 15T 04
	Floors/Ceilings	: • Isocheck 32T05
		• Isocheck 37T06
		• Isocheck ULTIMO07
		• Isocheck RENOVO
Į,	NGE	• Isocheck Barrier Mats09
		• Isocheck Impact Mats 14 - 15
		• Isocheck Isowave 2316
		• Isocheck PRIMO18 - 19
		• Isocheck Shallow Batten21
		• Isocheck Cradle22 - 23
		• Isocheck 27C, 23C & 14C24
		• Isocheck Re-Mat 3 & 525
		• Econocheck XL5 & XL826 - 27
	Separating	• Isocheck Decoupling Bar10
	Walls/	• Isocheck Isolation Strip11
	Partitions:	• Isocheck Phonewell12 - 13
		• Isocheck Isowave 2317

Separating	• Econocheck Deep Batten20
floors:	 Isocheck Shallow Batten21
	• Isocheck Cradle22 - 23
Ra	• Isocheck 27C, 23C & 14C24
ROBUST	• Isocheck Re-Mat 3 & 5

	Floors:	• Isocheck Barrier Mats09
		• Isolation Strip11
1	ESTIC	• Isocheck Phonewell12 - 13
		• Isocheck Impact Mats
	Separating	• Isocheck Phonewell12 - 13 • Isocheck Isowave 2317
	Walls/Ceilings:	• Isocheck Isowave 2317

Ceilings &	• Isocheck Decoupling Bar10
Absorption	• Isocheck Isowave 2317
	• Isocheck Isosorba Tiles 28



Isocheck 28T and 24T consist of a 6mm layer of Isofiba bonded to 22mm or 18mm P5 V313 moisture resistant chipboard, whereas Isocheck 15T consists of a 6mm layer of Isofiba bonded to 9mm moisture resistant medium density fibreboard.

When installed as part of a complete party floor construction the system enables a timber floor to meet the sound transmission standards of Approved Document E 2003 and subsequent amendments in 2004, 2010 and 2013.

Isocheck 15T has also been tested for use over water-fed underfloor heating systems (see thermal ratings below).

Typical construction:

- Isocheck 28T, 24T or 15T over floorboards.
- 200mm x 70mm timber joists @ 450mm centres.
- 100mm 45kg/m³ insulation between joists.
- 20kg/m² double boarded 25mm plasterboard on resilient bars @ 400mm centres laid perpendicular to joist direction.

Product data:

Overall size:	Isocheck 28T	2400 x 600 x 28mm
	Isocheck 24T	2400 x 600 x 24mm
	Isocheck 15T	1200 x 600 x 15mm
Resilient layer	:	6mm Isofiba
Weight:	Isocheck 28T	23.0kg/sheet
	Isocheck 24T	19.0kg/sheet
	Isocheck 15T	5.2kg/sheet

Performance:

	$D_{nT,w} + C_{tr}$	L'nT,w
Isocheck 28T	50dB	55dB
Isocheck 24T	49dB	55dB
Isocheck 15T	48dB	52dB

based upon the typical construction

Thermal ratings:

Isocheck 15T has been independently heat-flow tested (for use with water fed underfloor heating) and showed the following ratings:

Thermal conductivity: 0.069W/mK Thermal resistance: 0.203m2K/W

Isocheck 28T, 24T & 15T

High performance overlay systems designed to reduce sound transmission through traditional joisted timber floors.

Suitable for conversions and for impact isolation of wooden finished floors

















Isocheck 32T consists of 6mm reconstituted ACF (Acoustic chip foam) and 4mm Isofiba, bonded to 22mm P5 V313 moisture resistant chipboard.

Isocheck 32T system is designed to replace floorboards, in order to reduce sound transmission and thermally enhance traditional joisted timber floors.

When installed as part of a complete party floor construction the system enables a timber floor to meet the sound transmission standards of Approved Document E 2003 and subsequent amendments in 2004, 2010 and 2013.



Typical construction:

- Isocheck 32T.
- 200mm x 70mm timber joists @ 450mm centres.
- 100mm 45kg/m³ insulation between joists.
- 25mm double boarded ceiling (min. total ceiling mass 20kg/m²) supported by resilient bars @ 400mm centres perpendicular to the joists.

Product data:

Overall size: 2400 x 600 x 32mm Resilient layer thickness: 10mm

Resilient layer: 6mm reconstituted ACF and 4mm Isofiba

23.0kg/sheet

Weight:

Performance:

 $D_{nT,w} + C_{tr}$ $L'_{nT.w}$ Isocheck 32T with resilient 46dB 55dB bar ceiling

based upon the typical construction

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website.

These must be used in conjunction with this booklet when installing this product.

Isocheck 32T

High performance direct-to-joists system, designed to enhance traditional joisted timber floors.

Suitable for new build, conversions & refurbishment

















Isocheck 37T system is designed to replace floorboards and reduce sound transmission whilst thermally enhancing traditional joisted timber floors.

Isocheck 37T consists of a unique combination of a 10mm reconstituted ACF (acoustic chip foam) and the added isolation of a 5mm isofiba layer, bonded to 22mm P5 V313 moisture resistant chipboard.

When installed as part of a complete party floor construction either system enables a traditional timber ioisted floor to meet the sound transmission standards of ADE 2003 and ammendments in 2004, 2010 and 2013.

Isocheck 37T

High performance overlay system designed to enhance traditional joisted timber floors.

Suitable for conversions & refurbs with directly fixed ceilings













Typical construction:

- Isocheck 37T.
- 200mm x 70mm timber joists @ 450mm centres*.
- 100mm 45kg/m³ insulation between joists.
- lath & plaster ceiling or 30mm o/a double boarded ceiling (min 20kg/m²) fixed to timber joists.

Note: Tested only with directly fixed ceilings without resilient bars.

* Additional floor support may be required - commonly in the form of additional noggins.

Product data:

2400 x 600 x 37mm Overall size: Resilient layer thickness: 15mm Resilient layer: 10mm reconstituted ACF

plus 5mm Isofiba

23.6kg/sheet Weight:

Performance:

Isocheck 37T with boarded	$D_{nT,w} + C_{tr}$	$L'_{nT,w}$
ceiling	46dB	58dB

based upon the typical construction

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing this product.

Isocheck ULTIMO consists of 5 - 6mm Isofiba resilient layer bonded to 10mm fibre reinforced gypsum board, with a bonded top layer of 9mm thick t&g moisture-resitant board.

When installed as part of a complete party floor construction the system enables a timber floor to meet the sound transmission standards of Approved Document E 2003 and subsequent amendments in 2004, 2010 and 2013.

Typical construction:

- Isocheck ULTIMO
- floorboards.
- 200mm x 70mm timber joists @ 450mm centres.
- 100mm 45kg/m³ insulation between joists (total ceiling mass 20kg/m²).
- 25mm double boarded ceiling or lath & plaster (min 20kg/m²).

Product data:

Overall size: 1200 x 600 x 24mm

Resilient layer thickness: 5 - 6mm Isofiba Resilient layer:

Weight: 18.6kg/m² (13.4kg per sheet)

Performance:

 $D_{nT,w} + C_{tr}$ L'_{nTw} Isocheck UITIMO on >45dB <62dB 18mm floorboards

based upon the typical construction; new product, with more data available via www.isomass.co.uk

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website

These must be used in conjunction with this booklet when installing this product.



Isocheck ULTIMO

Isocheck ULTIMO system is designed to reduce sound transmission through traditional joisted timber floors, where construction access to ceilings may be limited.

> Suitable for conversions & refurbs with directly-fixed or low-mass ceilings*

*for example, flats over commercial properties or timber frame flats

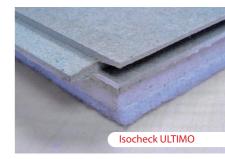














Isocheck RENOVO consists of 8mm environmentally friendly Ecopoli resilient layer* bonded to 18mm p5 moisture resistant chipboard.

When installed as part of a complete party floor construction the system enables a timber floor to meet the sound transmission standards of Approved Document E 2003 and subsequent amendments in 2004, 2010 and 2010.

Typical construction:

- Isocheck RFNOVO.
- floorboards
- 200mm x 70mm timber joists @ 450mm centres.
- 100mm 45kg/m³ insulation between joists (total ceiling mass 20kg/m²).
- · 25mm double boarded ceiling or lath & plaster (min 20kg/m²).

Product data:

Overall size: 2400 x 600 x 26mm

Resilient layer thickness: 8mm

*Ecopoli - produced from Resilient layer:

castor oil plant

 $L'_{nT.w}$

Weight: 18.8kg/sheet

Performance:

 $D_{nT.w} + C_{tr}$

Isocheck RFNOVO on 18mm 45dB 59dB

chipboard deck

based upon the typical construction

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website

These must be used in conjunction with this booklet when installing this product.

Isocheck RENOVO

Isocheck RENOVO system is an overlay system, designed to reduce sound transmission through traditional joisted timber floors.

Suitable for historic buildings











Weight-enhanced Isocheck Barrier Mat 5kg and Isocheck Barrier Mat 10kg are constructed of high-density barium sulphate loaded thermoplastic polymer, plasticized with phthalate esters and containing mineral fillers. They are black in colour, bitumen free, ecologically neutral and recyclable.

Barrier Mats are ideal for upgrades when looking to improve airborne sound reduction with minimal increase in height and depth within floors and walls.

In timber floors, Isocheck Barrier Mats can be laid directly over existing floorboards or draped between joists beneath the timber floorboards (as shown, above).

In timber walls the Barrier Mat can be sandwiched between two sheets of plasterboard or draped within studwork (as shown, right).



Product data:

	Overall:	Isocheck Barrier Mat 5	1.205m x 2.05n
size: Isocheck Barrier Mat 10		1.2m x 2.0m	
Thickness: Isocheck Barrier Mat 5		2 - 3mm	
		Isocheck Barrier Mat 10	5 - 6mm
	Weight:	Isocheck Barrier Mat 5	5.0kg/m ²
		Isocheck Barrier Mat 10	10.0kg/m ²

Performance:

Isocheck Barrier Mats contain a high performance material that has been acoustically tested at a UKAS certified independent test laboratory.

Tested and Rated according to: BS EN ISO 717-1:1997

> BS FN ISO 140-3:1995 BS EN ISO 2750-3:1995

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing this product.

Isocheck Barrier Mats

Isocheck weight-enhanced Barrier Mat systems are primarily used for their airborne, low-frequency damping properties in floors and walls.

Suitable for floor / wall upgrades to improve airborne sound reduction

















Isocheck Decoupling (resilient) Bar is a concealed suspension section (steel profile channel) which serves to enhance the acoustic properties of a separating floor or wall when used in conjunction

The bar effectively decouples the Isocheck panel or standard high density plasterboard from a timber stud wall or joisted floor.

with Isocheck acoustic systems.

For typical separating (party) floors, the bar system can significantly enhance both airborne & impact noise reduction, to comply with the mandatory acoustic test criteria (PCT) specified in Approved Document E of the building regulations.

Isocheck Decoupling (resilient) Bar has been designed specifically to be used in conjuction with the following:

 Isocheck PRIMO® & PRIMO HL Systems
 Isocheck 28T, 24T & 15T Systems • Isocheck 32T System • Isocheck Isowave Wall & Ceiling System 23 • Isocheck Phonewell System • Econocheck Deep Batten System • Isocheck 27C, 23C & 14C Systems • Isocheck Re-Mat 3 & Re-Mat 5 Systems • Econocheck XL5 and Econocheck XL8 Systems.

Isocheck Decoupling Bar

Isocheck Decoupling bar is designed to enhance the acoustic properties of a separating floor or wall.

Suitable for enhancing separating ceilings and walls



















Product data:

Length: 2400mm

Weight: approx. 0.45kg/lm

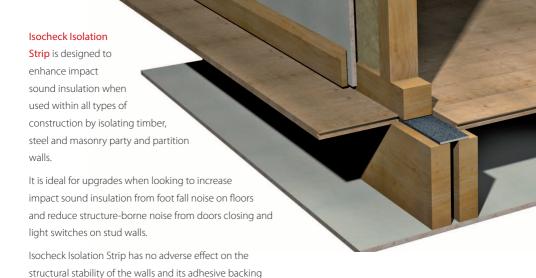
Composition: Roll formed galvanised steel to

BS EN 10346: 2009: Continuously hot-dip coated steel flat products.

←19mm →

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing this product.



Product data:

Common roll sizes: 50mm x 5mm x 25m 75mm x 5mm x 25m 100mm x 5mm x 25m 50mm x 10mm x 10m 75mm x 10mm x 10m 100mm x 10mm x 10m Composition: Cross linked Isopoli foam, self adhesive one side

ensures it can be held in position as the work progresses.

Many other sizes are available to order both in varying widths and thicknesses.

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website.

These must be used in conjunction with this booklet when installing this product.

Isocheck Isolation Strip

Designed to enhance impact sound insulation within all types of construction.

Suitable for floor & wall upgrades to reduce structure-borne and impact sound transmission



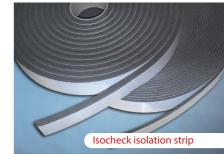














Isocheck PHONEWELL

Isocheck PHONEWELL system is designed to reduce excessive noise through floors, ceilings and walls.

Suitable for soundproofing in many scenarios, including old or historic buildings













Isocheck PHONEWELL is a unique cross fluted engineered card and hardboard carcass with a finely compacted loose sand mixture inside; it exhibits high mass with unique self decoupling and noise-damping properties.

When installed as part of a complete party floor or wall construction the system enables the complete wall or floor structure to meet the sound transmission standards of Approved Document E 2003 and subsequent amendments in 2004, 2010 and 2013.

The benefits of Isocheck PHONEWELL:

- Simple fitting, easy butt joints, no taping joints, no flanking strips and can be cut with a knife or jigsaw.
- Self load supporting for easy wall fixing. PATENTED PRODUC
- High noise reduction capability.
- Minimal 15mm thickness.
- Breathable system

Product data:

Board size: 1200 x 800 x 15mm Thermal conductivity: 0.17 W/mK Weight: $18.0 \, \text{Kg/m}^2$ 1200 Kg/m³ Density: Fire rating: R2

Performance:

The sections shown on page 13 are typical example construction details. In some cases, Isocheck PHONEWELL can achieve up to 12dB noise reduction, in conjunction with a good standard of workmanship.

On request, a good indication of the likely performance can be provided for a given construction with supporting test data, where relevant.

Support:

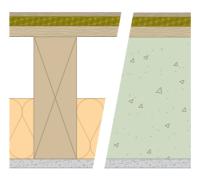
Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing this product.

Technical details

Isocheck PHONEWELL

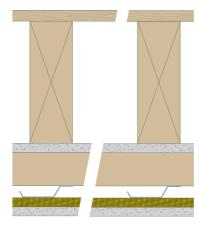
Upgrading timber and concrete floors (detail 1)

- 7mm laminate or Isocheck t&g MDF floor finish.
- 15mm Isocheck PHONEWELL.
- · existing floor.
- 200mm x 70mm timber joists @ 450mm centres with 100mm quilt insulation min.10kg/m³. and existing plasterboard ceiling (left) or
- ≥2400kg/m³ cast in-situ concrete slab with existing plasterboard ceiling (right).



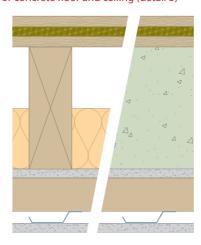
Upgrading timber joisted ceiling (detail 2)

- · existing floor.
- 200mm x 70mm timber joists @ 450mm centres.
- · existing plasterboard ceiling.
- 45 x 45mm softwood batten.
- resilient bars @ 400mm ctrs perpendicular to battens.
- 15mm Isocheck PHONEWELL.
- ≥10kg/m² gypsum board ceiling.



Upgrading timber joisted or concrete floor and ceiling (detail 3)

- chipboard or Isocheck t&g MDF overlay.
- 15mm Isocheck PHONEWELL.
- · existing floor.
- 200mm x 70mm timber joists @ 450mm centres with 100mm quilt insulation min.10kg/m³ (left) or
- ≥2400kg/m³ cast in-situ concrete slab with existing plasterboard ceiling (right).
- existing plasterboard ceiling.
- 45 x 45mm softwood batten.
- resilient bars @ 400mm ctrs perpendicular to battens.
- ≥10kg/m² gypsum board ceiling.



Upgrading solid walls (detail 4)



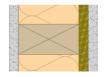
- solid brick or block wall.
- 15mm Isocheck PHONEWELL.
- ≥10kg/m² acoustic gypsum board.

Upgrading solid walls (detail 5)



- solid brick or block wall.
- resilient bars @ 100mm vertical centres.
- 15mm Isocheck PHONEWELL.
- ≥10kg/m² acoustic gypsum board.

Upgrading stud walls (detail 6)



- ≥10kg/m² acoustic gypsum board.
- 100mm x 50mm timber studs or steel studs with optional 100mm quilt insulation min.10kg/m³.
- 15mm Isocheck PHONEWELL.
- ≥10kg/m² acoustic gypsum board.

Upgrading stud walls (detail 7)



- ≥10kg/m² acoustic gypsum board.
- 15mm Isocheck PHONEWELL.
- 100mm x 50mm timber studs or steel studs with optional 100mm quilt insulation min.10kg/m³.
- 15mm Isocheck PHONEWELL.
- ≥10kg/m² acoustic gypsum board.



Isocheck Impact Mats 100 & 300

Designed to reduce impact sound transmission through timber floors and staircases.

Suitable for floor upgrades to improve the impact & airborne sound transmission on stairs and under engineered floors



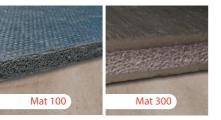












construction the system enables a timber floor to meet the sound transmission standards of Approved Document E 2003 and subsequent amendments in 2004, 2010 and 2013.

Typical party floor upgrade construction:

- Isocheck Impact Mat 100 or 300.
- · floorboards.
- 200mm x 70mm timber joists @ 450mm centres.
- 100mm 45kg/m³ insulation between joists.
- 25mm double boarded ceiling or lath & plaster (minimum ceiling mass 20kg/m²).

Product data:

Overall	Mat 100	1370mm x 7300mm roll
size:	Mat 300	1200mm x 600mm mat
Resilient	Mat 100	5.5mm Isolate M
layer:	Mat 300	12.0mm tri-layer with Isopoli core
Weight:	Mat 100	2.2kg/m ²
	Mat 300	12.5kg/m ²

Performance:

Laboratory performance of Isocheck Impact Mat 100 & 300 resulted in performances of 25dB & 40dB ΔLw respectively.

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when laying this product.

Isocheck Impact Mat 200 is designed to reduce impact and airborne sound transmission through timber floors. Impact Mat 200 consists of an 8mm Isopoli / barrier mat composite.

When installed as part of a complete party floor construction the system enables a timber floor to meet the sound transmission standards of Approved Document E 2003 and subsequent amendments in 2004, 2010 and 2013.

Typical construction:

- finished floor (for example, engineered timber).
- one or two layers of Isocheck Impact Mat 200.
- · floorboards.
- 175mm x 50mm timber joists @ 450mm centres.
- 100mm 45Kg/m³ insulation between joists.
- · lath and plaster ceiling or a double layer of plasterboard (min. 20kg/m²) fixed to timber joists. Note: Currently only tested worst case scenario with direct

Product data:

fixed ceilings

Overall size: 1200mm x 1000mm mat Resilient layer: 8mm Isopoli / Barrier composite Weight: 8.0kg/m^2

Performance:

Laboratory performance of Impact Mat 200 achieved **26dB** Δ Lw for a single layer. Site test results have also proven favourable performance in relation to Approved Document E requirements, where airborne noise reduction was significantly enhanced, in addition to impact noise reduction

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing this product.



Isocheck Impact Mat 200

Can be used as a single or double layer over floorboards.

Suitable for floor upgrades to improve impact & airborne sound transmission with minimal height increase

















Isowave 23 incorporates acoustic foam which is semi rigid and is an excellent absorber with high damping characteristics when bonded to an acoustically reflective stiff surface. Isowave foam is manufactured using water as a blowing agent and is free of CFCs, HFCs or HCFCs.

Isowave 23 complies with requirements of EU Regulation No 2037/2000 for ozone depletion and offers good thermal properties.

It is ideal for upgrading separating floors/ceilings where access to the top of the floor is not possible.

Isowave 23 for ceilings

The Isowave system 23 is for the treatment of excessive noise through floors and ceilings.

Suitable for constructing/upgrading separating floors from below by upgrading or replacing the ceiling















Typical construction/upgrades for ceilings:

- 200mm x 70mm timber joists @ 450mm centres.
- resilient bars @ 400mm centres perpendicular to the joists.
- 100mm 45kg/m³ insulation between joists.
- Isowave 23.
- min. 12.5mm plasterboard.

Product data:

Overall board size: 1200 x 600 x 22.5mm

Resilient layer thickness: 10mm Density: 1300 Kg/m³ Weight: 17.3kg/m²

Performance:

Compliance with Approved Document E standards can be achieved; please contact Isomass with specific requirements.

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing this product.

Isowave 23 consists of a 10mm Isowaye acoustic foam measured to BS 4443 and BS FN ISO 845:2009 bonded to 12.5mm high density, square edged fibre-reinforced gypsum board.

Isowave 23 is ideal for upgrading a separating or external masonry wall which is causing flanking noise transmission (this is often revealed as the cause of a separating floor test failure) or used on independent studwork to upgrade an existing separating wall that is found to perform poorly for airborne sound transmission.

Typical construction for separating/external wall (as shown):

- 12.5mm tapered-edged plasterboard with all joints taped.
- Isowave 23.
- · decoupling bar fitted to vertical battens at 400 - 500mm centres.
- Structural wall construction.

Typical upgrades for separating / 'party' walls:

- 12.5mm tapered-edged plasterboard with all joints taped.
- Isowave 23.
- decoupling bar fitted to vertical battens at 400 -500mm centres on brick / block wall construction. or
- 12.5mm tapered-edged plasterboard with all joints taped.
- Isowave 23 on timber or metal stud.
- air space between stud and brick / block wall construction.

See separate data sheet for diagrams of all typical constructions for Isowave 23 in walls and ceilings.

Isowave 23 for walls

Isowave 23 is for the treatment of excessive flanking sound that bypasses a separating floor via lightweight structural walls. It can be used to minimise direct noise transmission.

> Suitable for constructing/ upgrading a separating or common external wall

















melamine-free APF bonded to 18mm (PRIMO 26) or 22mm (PRIMO 30) P5 V313 moisture resistant chipboard and is designed for timber & steel framed projects.

Isocheck PRIMO consists of an 8mm layer of

When installed as part of a complete party floor construction the system enables a timber floor to meet the sound transmission standards of Approved Document E 2003 and subsequent amendments in 2004, 2010 and 2013.

Isocheck PRIMO is also available in a high load version -Isocheck PRIMO HL - for bathroom and kitchen applications. This system enables all bathroom and kitchen fittings to be placed directly on the PRIMO HL board and facilitates a good base for tiling.

PRIMO SYSTEMS

Isocheck PRIMO systems are designed to reduce sound transmission through traditional / composite timber / steel joisted floors.

Suitable for timber frame & steel framed constructions













Typical construction for timber frame example:

- Isocheck PRIMO 26, PRIMO 30 or PRIMO HL.
- 15mm thick plasterboard layer on floor deck.
- 220mm x 50mm timber, composite wood or steel joists @ 400mm centres.
- 100mm 45kg/m³ insulation between joists.
- 20kg/m² double boarded 25mm plasterboard on resilient bars @ 400mm centres perpendicular to joist direction.
- proprietary metal framed ceiling system to provide min. 100mm deep void with 12.5mm plasterboard layer.

Product data:

Overall size:	PRIMO 26	2400 x 600 x 26mm
	PRIMO 30	2400 x 600 x 30mm
	PRIMO HL	2400 x 600 x 23mm
Resilient layer:	PRIMO	8mm APF
	PRIMO HL	5mm Cross linked Isopoli
Weight:	PRIMO 26	18.8kg/sheet
	PRIMO 30	23.0kg/sheet
	PRIMO HL	18.8kg/sheet
	Resilient layer:	PRIMO 30 PRIMO HL Resilient layer: PRIMO PRIMO HL Weight: PRIMO 26 PRIMO 30

Performance:

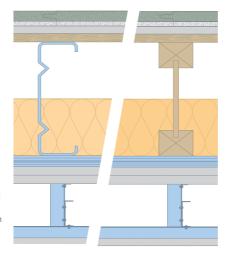
 $D_{nT,w} + C_{tr}$ L'nT.w PRIMO or HI (timber frame) >45dB <62dB PRIMO or HI (steel frame)

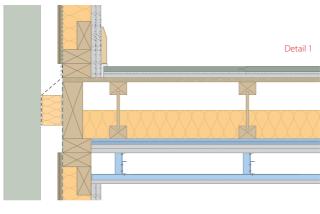
based upon the typical construction

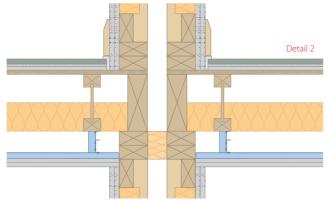
Compliance with Code for Sustainable Homes is possible; please contact Isomass for design advice.

Construction details

- Isocheck PRIMO.
- 12.5mm sound-grade plasterboard.
- OSB sub floor.
- Composite wood, traditional timber or steel joists.
- 100mm 45kg/m³ insulation between joists.
- 20kg/m² double boarded 25mm o/a plasterboard on resilient bars @ 400mm centres perpendicular to joist direction.
- min. 100mm void formed by metal frame suspended ceiling system plus ≥8kg/m² gypsum board ceiling.







PRIMO® SYSTEMS

Isocheck PRIMO boards are ideal for floors as part of a timber frame or steel frame construction.

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when laying this floating floor system.

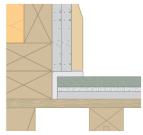
External (flanking) wall junction (Detail 1)

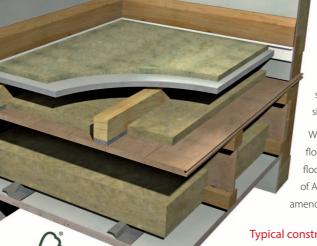
- · masonry outer leaf.
- external wall cavity (min. 50mm).
- · cavity closer with cavity stop.
- timber sheathing and permeable membrane (if required).
- quilt insulation min.10kg/m³.
- two layers of gypsum-based board nominal 8kg/m² each layer.
- joists may span in either direction.

Separating wall junction (Detail 2)

- cavity closer with cavity stop.
- two layers of gypsum-based board nominal 8kg/m² each layer.
- · joists may span in either direction.

Alternative flanking detail





Econocheck Deep Batten consists of mixed density 15mm ACF (acoustic chip foam) bonded to ESC certified 60mm softwood batten as standard. Other batten sizes are available to special order.

When installed as part of a complete party floor construction the system enables a timber floor to meet the sound transmission standards of Approved Document E 2003 and subsequent amendments in 2004 and 2010.

Typical construction:

- 18mm or 22mm chipboard & 19mm 'plank' plasterboard.
- Deep Batten @ 400mm max. centres to run perpendicular to the joists.
- 25mm mineral fibre insulation 10 to 36kg/m³.
- structural deck, typically 18mm OSB.
- · composite, traditional or steel joists.
- 100mm guilt insulation min.10kg/m³.
- min 24kg/m² double boarded ceiling on resilient bars affixed perpendicular to joist direction.

Product data:

Overall size: 1800 x 45 x 75mm Approx. 13mm Resilient layer thickness:

(under normal domestic load)

Resilient layer: ACF Acoustic chip foam

Performance:

Treated floor meets with the New Build Robust Detail descriptive FFT1, typically within Robust Detail E-FT-1, E-FT-2, E-FT-3, E-FS-2, E-FC-1, E-FC-7 and E-FS-1.

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing this product.

Compliance with Code for Sustainable Homes is possible; please contact Isomass for design advice.

Econocheck Deep Batten

Econocheck Deep Batten is designed to reduce sound transmission through timber / steel joisted floors. -May also be installed in conjunction with underfloor heating systems.

Suitable for timber frame construction (Robust Detail New Build compliant)









Timber frame & steel frame



Isocheck Shallow Battens are designed to reduce sound transmission through a concrete structural sub-floor and consist of a laver of 8mm Isopoli bonded to FSC-certified softwood batten.

Isocheck Shallow Batten can also be used in conjunction with underfloor heating systems similar to the Cradle system (see page 22).

When installed as part of a complete party floor construction it enables a concrete floor to meet the sound transmission standards of of Approved Document E 2003 and subsequent amendments in 2004 and 2010.

Should the requirement be for a batten height other than that specified on this page please contact us for further details.

Isocheck Shallow Batten

Isocheck Shallow Batten system is designed to reduce sound transmission through a level concrete structural sub-floor.

Suitable for masonry floor construction (New Build Robust Detail compliant)

















Typical constructions:

- 18mm or 22mm chipboard deck.
- Isocheck Shallow Batten @ 400mm max. centres.
- bonded smooth, level screed ≥80kg/m² over min. 150mm hollow core concrete plank (300kg/m²) with metal frame suspended ceiling (min. 100mm void) and 8kg/m² plasterboard. or
- ≥2400kg/m³ cast in-situ concrete slab with metal frame suspended ceiling (min. 75mm void) and 10kg/m² p/board.

Product data:

Overall batten size: 2400 x 45mm or 54mm

Resilient layer thickness: 8mm

Resilient layer: Cross linked Isopoli foam

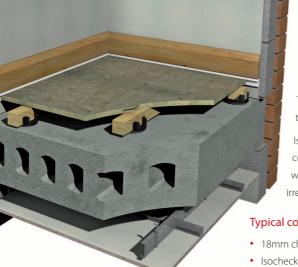
Performance:

Treated floor meets with the Robust Detail descriptive FFT3, typically within Robust Details E-FC-1, E-FC-2, E-FC-7 and E-FS-1.

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing this product.

Compliance with Code for Sustainable Homes is possible; please contact Isomass for design advice.



Isocheck Acoustic Cradle consists of an 5mm layer of Isopoli HD resilient pad bonded to a 96mm diameter injection moulded plastic cradle.

The system includes levelling packers in various thicknesses.

Isocheck Cradle is New Build Robust Detail compliant for masonry floor construction and where the structural sub floor has a camber or is irregular and requires a level surface.

Typical construction:

- 18mm chipboard floor.
- Isocheck Cradle with a (commonly used) strength-graded 45mm x 45mm (nominal) batten @ 400mm centres
- 130mm min. in-situ concrete (80mm min. fully supported) on profiled metal deck. or
- 150mm hollow core concrete plank min. 300kg/m² excluding screed.
- metal frame suspended ceiling with 75mm void and 10kg/m² plasterboard or with100mm void and 8kg/m² plasterboard.

Product data:

Height of base plate: 8mm Resilient layer: Isopoli HD

Performance:

Treated floor meets with the New Build Robust Detail descriptive FFT2, typically within Robust Details E-FC-1, E-FS-1, E-FC-2 and E-FC-7.

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing this product.

Compliance with Code for Sustainable Homes is possible; please contact Isomass for design advice.

Isocheck Acoustic Cradle

Isocheck Cradle system is designed to reduce sound transmission through uneven concrete floors.

Suitable for masonry floor construction (New Build Robust Detail compliant)











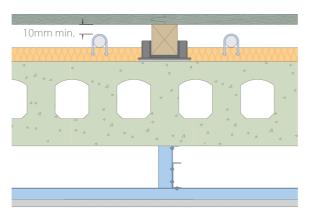


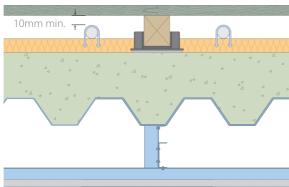


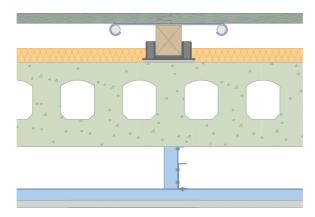


Isocheck batten and cradle system incorporating an underfloor heating system

Isocheck Acoustic Cradle







Isomass Ltd has developed a number of acoustic floor solutions that can complement the requirement for underfloor heating.

The company's experience in acoustics will ensure that the integration of the underfloor heating system meets your requirements.

The floor details shown are known to comply with Approved Document E of the building regulations and in some cases Robust Details.

Typical constructions:

- 18mm chipboard floor.
- Isocheck Cradle or Deep Cradle with 45mm x 45mm batten @ 400mm centres.
- suitable rigid sheet insulation resting on or between cradles.
- min. 150mm hollow core concrete plank min. 300kg/m² excl screed.
 with metal frame suspended ceiling (min. 100mm void) and 8kg/m² plasterboard (top) or
- 130mm min. in-situ concrete (80mm min. fully supported) on profiled metal deck. with metal frame suspended ceiling (min. 75mm void) and 10kg/m² plasterboard (bottom left).
- alternative arrangement using propriety supporting pipework tray (bottom left).



Isocheck 27C, 23C &14C systems are designed to reduce airborne and impact sound transmission through concrete floors.

Isocheck 27C & 23C consist of a 5.5 mm layer of cross linked Isopoli bonded to 22mm and 18mm P5 V313 moisture resistant t&a chipboard respectively, whereas Isocheck 14C consists of a 5.5 mm layer of cross-linked Isopoli bonded to 9mm moisture resistant medium density t&g fibreboard.

Typical construction examples:

- Isocheck 27C, 23C or 14C.
- ≥300kg/m² hollow core concrete planks with 80kg/m² sand/cement screed or 40mm proprietary screed.
- min. 75mm void formed by metal frame suspended ceiling system with ≥10kg/m² gypsum board ceiling (shown above). or
- 50 x 75mm timber battens supporting 10kg/m² gypsum board ceiling supported on resilient bars @ 400mm ctrs, perpendicular to the battens min. 75mm below underside of sub-floor

Product data:

Overall size:	Isocheck 27C	2400 x 600 x 27mm	
	Isocheck 23C	2400 x 600 x 23mm	
	Isocheck 14C	1200 x 600 x 14mm	
Resilient layer:		5.5mm Isopoli cross	
		linked foam	
Weight:	Isocheck 27C	22.8kg/sheet	
	Isocheck 23C	18.8kg/sheet	
	Isocheck 14C	5.15kg/sheet	

Performance:

	$D_{nT,w} + C_{tr}$	L' _{nT,w}
Isocheck 27C	53dB	54dB
Isocheck 23C	53dB	53dB
Isocheck 14C	51dB	52dB

based upon the typical construction examples Complies with New Build Robust Detail descriptive FFT5 within F-FC-1, F-FC-2 and F-FS-1.

Compliance with Code for Sustainable Homes is possible; please contact Isomass for design advice.

Isocheck 27C, 23C & 14C

High performance overlay platform systems designed to reduce sound transmission through concrete floors.

Suitable for masonry floor construction (New Build Robust Detail compliant)





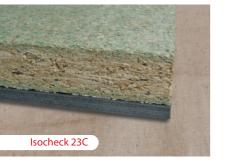












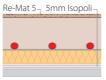
Isocheck Re-Mat 3 & Re-Mat 5 comprise recycled rubber/cork mixed with polymer binders.

Re-Mat systems are suitable for all types of floor finishes including ceramic tiles, stone, marble, vinyl, carpet and solid or laminate wood.

Typical construction examples:

- Re-Mat 3 or Re-Mat 5 bonded to structural sub-floor.
- ≥300kg/m² hollow core concrete planks with 80kg/m² sand/cement screed or 40mm proprietary screed.
- 75mm min. void formed by metal frame suspended ceiling system and ≥10kg/m² gypsum board ceiling. or
- 50 x 75mm timber battens with ≥10kg/m² gypsum board ceiling 75mm below underside of sub-floor supported by resilient bars @ 400mm centres perpendicular to the battens.

In certain circumstances a heated floor system* can be installed beneath Re-Mat 3 or Re-Mat 5.



robust detail option B

Product data:

Roll size:	Isocheck Re-Mat 3	1m x 20m x 3.0mm
	Isocheck Re-Mat 5	1m x 20m x 4.5mm
Colour:		Black / beige
Density:		$>350 kg/m^3$

Performance:

Laboratory performance achieved 17dB ΔLw for Re-Mat 3 and **18dB** ΔLw for Re-Mat 5. Treated floor can meet with the Robust Detail options A & B within E-FC-8, when used in conjunction with Econocheck XL5 (see website) 5mm underscreed layer.

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing this product.

*For advice regarding underfloor heating, please contact us.

Compliance with Code for Sustainable Homes is possible; please contact Isomass for design advice.



Isocheck Re-Mat 3 & 5

Re-Mat 3 and Re-Mat 5 systems are designed to reduce impact sound transmission through concrete floor decks with many types of floor finishes.

Suitable for masonry floor constructions (Robust Detail compliant)



















The Econocheck XL5 under-screed system features a 5mm closed cell cross-linked (hence "XI") foam laver that has been designed to be placed within a masonry structural floor directly below the screed.

This serves to isolate the screed from the structural sub floor and provide sufficient impact absorption to place it amongst the top performing systems available today.

By ensuring that all the joints are taped, bridging by screed migration will be eliminated.

Econocheck XL5 is ideal for masonry floor construction to isolate sand/cement or self level screeds from structural

Typical construction:

- 80kg/m² sand/cement screed or 65mm proprietary screed
- Econocheck XL5 on grouted sub floor.
- optional (1000 gauge or 0.25mm) plastic sheeting to aid screed pouring and maintain joints in XL5.
- ≥300kg/m² minimum structural sub floor.
- 75mm min. void formed by metal frame suspended ceiling system and ≥10kg/m² gypsum board ceiling.

Product data:

Roll dimensions: 50m long x 1.5m wide

Thickness: 5mm

Closed Cell Cross Linked Isopoli Foam composition:

Performance:

 $D_{nT,w} + C_{tr}$ L'nT.w Fconocheck XL5 50dB <45dB

based upon the typical construction (commonly 50dB+)

Compliance with Code for Sustainable Homes is possible for both Econocheck XL5 and XL8; please contact Isomass for design advice.

Econocheck XL5

Under-screed system designed to be placed within pre-cast or cast-in-situ structural concrete floor slabs directly below the screed.

Suitable for masonry floor construction











For superior performance, the Econocheck XL8 under-screed system features an 8mm closed cell cross linked (hence "XL") foam laver that has been designed to be placed within a masonry structural floor directly below the screed.

This isolates the screed from the structural sub floor, and provides sufficient impact absorption to place it amongst the top performing systems available.

Econocheck XL8 is ideal for masonry floor constructions to isolate sand/cement or self leveling screeds from structural masonry.

Typical construction:

- 80kg/m² sand/cement screed or 65mm proprietary screed.
- · optional plastic sheeting to aid screed pouring and maintain joints in underscreed XL8.
- Econocheck underscreed XL8 on grouted sub floor.
- ≥300kg/m² minimum structural beam and block floor with optional levelling screed.
- 75mm min. void formed by metal frame suspended ceiling system and ≥10kg/m² gypsum board ceiling.

Product data:

Roll dimensions: 60m long x 1.85m wide

70m long x 1.85m wide

Thickness: 8mm

Foam composition: Closed Cell Cross Linked Isopoli

Performance:

	$D_{nT,w} + C_{tr}$	L' _{nT,w}
Econocheck XL8	50dB	≤45dB

based upon the typical construction

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing XL5 or XL8.



Econocheck XL8

Under-screed system designed to be placed over a structural concrete slabs, including beam & block floors, directly below the screed.

> Suitable for masonry floor construction















Isosorba tiles feature a highly sound absorbent fibreglass core which can provide very high noise absorption and are finished in a contemporary, white speckled laminated facing.

The tiles have bevel edges contributing to an elegant look which allows unique wall and ceiling designs to be created. The panels are supplied in a standard white colour to blend in with most ceilings. They can also be emulsion painted to any

Isosorba tiles are simply adhered to ceilings and upper walls using Isosorba Spray Adhesive. They are used widely in schools, offices, music studios, lecture theatres, multi purpose halls, interview rooms, training areas and cinemas.

The tiles meet both the requirements of Building Bulletin 93 (BB93) for acoustics in school buildings (which gives the performance targets for compliance with Approved Document E) and the requirements of BS 476-7:1997 and BS 476-6:1989+A1:2009

Typical construction:

- existing ceiling or wall construction.
- Isosorba tiles bonded using Isosorba Spray Adhesive, to form suitable absorptive surface.
- tiles to be painted using water-based emulsion only.
- contact us for advice on correct installation procedure.

Product data:

Tile dimensions: 1200 x 600mm

Thickness: 30mm

Weight: 2.8kg per tile

Sound absorbent fibreglass core Composition:

with decorative matt white finish

Support:

Full installation instructions and product datasheets containing design diagrams are available upon request or from our website. These must be used in conjunction with this booklet when installing this product.

*Painting of tiles should be carried out strictly in accordance with Isomass instructions

Isosorba Tiles

Isosorba tiles feature a highly sound absorbent fibreglass core to provide high noise absorption in reverberant areas.

Suitable for schools, colleges, offices, cinemas, 'common parts' of flats etc.















Isocheck perimeter flanking band

Isocheck flanking bands act as anti-noise gaskets between floating floor systems and structural elements. In this way, expansion is also catered for without the need for an air gap, where noise leakage may otherwise occur.

Isocheck Acoustic FR Sealant

Isocheck acoustic fire rated sealant is used to reduce the unwanted airborne sound that is commonly found to pass around the junction between, ceilings, floors & walls.

Other common areas requiring attention are sealing around service penetrations in the Isomass floating floor system. Supplied in 310ml tubes.

Isocheck Impacta Pads

Isocheck Impacta Pads are suitable for creating isolation of flanking noise elements, for example, where kitchen units are connected to walls. This common connection encourages impact/structure-borne sound transmission to travel from the units up/down the structural wall to the dwelling above/below. Other suitable locations may be under bath feet, etc.

Isocheck Adhesive

For use with both Isocheck and Econocheck tongued & grooved board joints. As a rule of thumb a 1 litre bottle (as illustrated) should cover approx 20m² depending on the board size, ensuring glue is always applied to the top and bottom of the t&g joint.

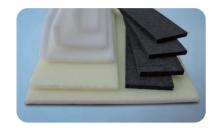
Mineral Fibre Insulation

All systems designed for use on timber new build or conversion party floors will require mineral wool insulation between the joists. This is commonly no more than 100mm thick and around 45kg/m³. It is available from most distributors/builders merchants. If in any doubt please contact contact us for a specification to suit your construction.

Isocheck Acoustic Hangers

Many systems designed for use on timber or concrete separating floors benefit from decoupling the ceiling and increasing the airspace beneath the supporting floor. Where the floor to ceiling height allows Acoustic Hangers often provide the best performance when installed with an acoustic floor treatment.

Important Accessories











Standard flanking details

Flanking noise

Flanking noise is unwanted airborne and impact noise that is transmitted through the fabric of a construction in buildings and when new walls are added to existing buildings.

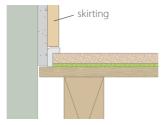
It normally occurs when lightweight walls and supporting steel work penetrate floors or façade walls which support timber or concrete suspended floors. Approved Document E of the Building Regulations recommends that these junctions be sound insulated to stop flanking noise.

Isomass has developed a number of solutions for the sound insulation of walls. These drawings show ways to avoid some of the usual flanking noise issues in timber and concrete floor construction. Additional flanking details for timber frame walls are shown on page 19.

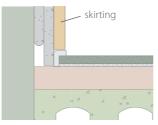
Note:

All floor-to-wall junctions **must** be sealed

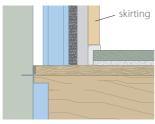
For advice regarding correct anti-flanking noise measures, please contact us.



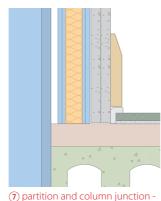
① overlay platform system direct to floorboards - direct-plastered wall



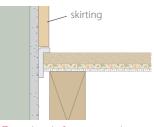
(3) overlay platform system direct to screed deck - dot & dab lining



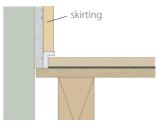
(5) steel stud with 25mm air gap and Isowave 23 to overlay system



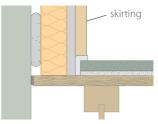
section on A-A (right)



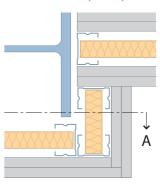
(2) overlay platform system direct to joists - direct-plastered wall



(4) impact mat system direct to floorboards - direct-plastered wall



(6) insulation/plasterboard laminate on dabs with overlay floor system



(8) partition and column junction - overhead section

Technical Support / Special Projects

Building Regulations - Noise / Sound Insulation

Approved Document E (ADE) of the Building Regulations 2003 (amended 2004 and 2010) for England & Wales is designed to provide standards for acoustic insulation. The ADE regulations have changed the

pass criteria for airborne sound by putting a greater emphasis on low frequency sound (100Hz - 400Hz) which can be the root cause of many complaints about noise.

ADE applies to both new build and conversion projects defined as rooms for residential purposes which includes hotels, hostels, nursing homes and student accommodation. It applies to the separating walls, floors and ceilings between adjoining dwellings.

Compliance with ADE can be proven in two ways

- pre-completion testing (PCT) for conversion, change of use or new build (that are not using a Robust Detail)
- by using a Robust Detail (new build only), depending upon the project.

Sound Testing

As sponsor members of the IOA (Institute of Acoustics) Isomass are happy to supply names of suitable consultants to quote for the testing in your area





Free Technical Support

Isomass offers comprehensive technical support to designers and builders working with our acoustic systems, including:

- Data sheets and installation instructions
- CAD details
- Copies of test certificates
- Design and installation guidance
- Sound testing

Isomass Special Projects

Isomass often undertake special projects, examples of which include:

- Home cinemas
- Whole-house soundproofing
- Music studios
- Carpet-to-wooden floor covering replacement in 'managed' blocks
- Hotel soundproofing
- and many others.
 Please call Isomass if you have a project to discuss.



Ongoing product development

Isomass are continually modifying and improving products so some details may change without prior notice. Details of new acoustic products and solutions will appear on our website as they are launched.

Technical and General enquiries

T: 0845 838 33 99

F: 0845 838 33 89

E: info@isomass.co.uk

Additional product information and specification details

www.isomass.co.uk

Data sheets and installation instructions

www.isomass.co.uk/downloads.htm











acoustic systems for: floors • walls • ceilings













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www.isomass.co.uk

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reserves the right to alter product specifications or fixing instructions without notice.