Using the Section 5 Robust Details Scheme

1. Select the robust details you want to build to
   - Ensure you are able to meet the specifications and comply with the requirements
   - If selecting walls and floors for flats, refer to Table 3 in the Introduction to ensure compatibility

2. Register plots with Robust Details Ltd (RDL)
   - Register all plots that will benefit from the robust details, prior to commencement of work on site
   - Notify the Verifier by forwarding them 1 set of the Purchase Statements issued to you by RDL

3. Construct in accordance with all relevant specifications
   - The specifications must be strictly followed
   - If in doubt contact the RDL Technical Helpline
   - The Verifier may carry out inspections of work in progress. Deviations from the specifications may result in pre-completion sound testing

Performance Monitoring

To ensure the scheme continues to provide the expected high levels of performance, RDL conduct random visual inspections and tests on a proportion of sites registered. So please remember that your site may be visited by us as well as the Verifier.

Other forms of Construction may also be available...

If you have designed a robust form of construction for separating walls or floors, it is possible to have it assessed for inclusion in this Handbook

- This involves submitting details of the construction; and a number of sound tests conducted within dwellings on real developments. To meet the robust details performance criteria, the mean of the test results must be at least 5dB better than the Building (Scotland) Regulations minimum.

For further information, please refer to our website, www.robustdetails.com, or for additional advice, phone the RDL Technical Helpline on 0870 240 8209
Contents

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List of robust details™
• Table 1 – Separating walls
• Table 2 – Separating floors
• Tables 3a, 3b and 3c
  – Robust detail™ separating walls and floors which can be used together in flats/apartments
• Table 4 – Robust detail™ separating walls which can be used together with non-robust detail™ separating floors in flats/apartments
• Table 5 – Robust detail™ separating floors which can be used together with non-robust detail™ separating walls in flats/apartments
• Table 6 – Robust detail™ separating walls which can be used together with the proprietary flanking constructions contained in Appendix A2
• Table 7 – Robust detail™ separating floors which can be used together with alternative products contained in Appendix A3

Robust details™

Separating walls
• Masonry
• Timber
• Steel

Separating floors
• Timber
• Steel-concrete composite
Appendices

Appendix A1  Additional guidance
Appendix A2  Proprietary flanking constructions
Appendix A3  Specific proprietary products
Appendix B  Glossary
Appendix C  Determination of the acoustic performance requirements for floating floor treatments used with RD timber frame separating floors
Appendix D  Determination of the acoustic performance requirements for floating floor treatments used with RD concrete and steel-concrete composite separating floors
Appendix E  Determination of the acoustic performance requirements for resilient bars used on ceilings
Appendix F  Determination of the acoustic performance of downlighters and recessed lighting in lightweight separating floors
Introduction

This handbook produced by Robust Details Ltd contains the separating wall and separating floor constructions that have achieved the status of robust details™ for Section 5. The prescribed robust details™ contained herein are applicable to limiting the transmission of noise only within new build domestic buildings within the scope of the Building (Scotland) Regulations 2004.

The robust details™ have undergone an extensive sound insulation testing regime, robust design analysis and independent audit and have satisfied the robust details™ Management Board that they should provide a level of sound insulation compliant with Section 5. Only then can they be incorporated within this Robust Details Handbook.

Importantly, the designer and the verifier can be confident that when considering approval of a building warrant for new build housing incorporating robust details™, compliance with Mandatory Standard 5.1 will be achieved.

It can be safely assumed that the pre-emptive approval of the building warrant is based on sound evidence and design competence.

As noted previously, the Building (Scotland) Regulations 2004 recognise that compliance on site can only be achieved by having sufficient checks in place to provide comfort to the designer and verifier that the design proposals have been followed to the letter during the construction and installation phase prior to completion and handover. In essence, buildings containing designed elements of construction to combat unacceptable levels of noise transmission, should be subjected to a post-completion assessment (and test) to confirm their performance test levels.

The use of robust details™ provides an alternative to pre-completion testing for demonstrating compliance with the performance standards of Section 5 for new build dwellings. Every dwelling built using robust details™ needs to be registered with Robust Details Ltd and a plot registration fee paid.

Each robust detail™ includes materials and construction details for the separating wall/floor and its key interfaces with other elements and should be read in conjunction with Appendix A.

The final page of each robust detail™ is a checklist, which should be photocopied and used by the site manager/supervisor to confirm that the separating wall/floor has been built correctly. The verifier may ask to see the checklist.

It is important that separating walls/floors and their associated junctions and flanking conditions are constructed entirely in accordance with the relevant robust detail™; otherwise the verifier may require pre-completion testing to be carried out.

The tables on pages 4, 5 and 6 show which robust detail™ separating floors and walls can be used in flats/apartments.

Note:
The guidance contained in this handbook relates only to Section 5. The building work will also have to comply with the requirements of all other relevant parts of the Building (Scotland) Regulations and other relevant legislation.

Where testing is required on a wall or floor the user should seek expert acoustic advice prior to construction commencing.

Further information on the robust details™ scheme (including how to apply for new robust details™) is available on the robust details™ web site at:

www.robustdetails.com

or from:

Robust Details Ltd
Davy Avenue
Knowhill
Milton Keynes
MK5 8NB

Telephone: 0870 240 8209 - Technical
0870 240 8210 - General

Fax: 0870 240 8203

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™: trade mark
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Warning: the doing of an unauthorised act in relation to a copyright work may result in both a civil claim for damages and criminal prosecution.
# Introduction

## List of Robust Details™

### Table 1 – Separating walls

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-WM-11™</td>
<td>Masonry – lightweight aggregate blockwork (render and gypsum-based board) with 100mm minimum cavity</td>
</tr>
<tr>
<td>V-WM-14™</td>
<td>Masonry – lightweight aggregate blockwork Saint Gobain - Isover RD35 (gypsum-based board) with 100mm minimum cavity</td>
</tr>
<tr>
<td>V-WM-19™</td>
<td>Masonry – dense or lightweight aggregate blockwork (render and gypsum-based board) with 100mm minimum cavity and MONARFLOOR® BRIDGESTOP® system</td>
</tr>
<tr>
<td>V-WM-20™</td>
<td>Masonry – lightweight aggregate blockwork Saint Gobain - Isover RD Party Wall Roll (gypsum-based board) with 100mm minimum cavity</td>
</tr>
<tr>
<td>V-WM-21™</td>
<td>Masonry – lightweight aggregate blockwork (wet plaster) with minimum 100mm cavity</td>
</tr>
<tr>
<td>V-WT-1™</td>
<td>Timber frame – without sheathing board</td>
</tr>
<tr>
<td>V-WT-2™</td>
<td>Timber frame – with sheathing board</td>
</tr>
<tr>
<td>V-WT-3™</td>
<td>Timber frame – Elecoframe prefabricated panels</td>
</tr>
<tr>
<td>V-WT-4™</td>
<td>Timber frame – Excel Industries Warmcell 500 insulation - with sheathing board</td>
</tr>
</tbody>
</table>
## Introduction

### List of Robust Details™

Table 2 – Separating floors

<table>
<thead>
<tr>
<th>Details</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-FT-1™</td>
<td>timber i-joists and floating floor treatment</td>
</tr>
<tr>
<td>V-FT-2™</td>
<td>timber solid joists and floating floor treatment</td>
</tr>
<tr>
<td>V-FS-1™</td>
<td>steel deck and in-situ concrete and floating floor treatment</td>
</tr>
</tbody>
</table>
Introduction

Table 3a – Combinations of Robust Details™ separating walls and floors for flats/apartments in loadbearing masonry constructions

<table>
<thead>
<tr>
<th>Separating walls</th>
<th>Separating floors</th>
</tr>
</thead>
</table>

No separating floors are currently approved for use with loadbearing masonry walls
Introduction

Table 3b – Combinations of Robust Details™ separating walls and floors for flats/apartments in timber frame constructions

<table>
<thead>
<tr>
<th>Separating walls</th>
<th>Separating floors</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-WT-1™</td>
<td>✓</td>
</tr>
<tr>
<td>V-WT-2™</td>
<td>✓</td>
</tr>
<tr>
<td>V-WT-3™</td>
<td>F</td>
</tr>
<tr>
<td>V-WT-4™</td>
<td>F</td>
</tr>
</tbody>
</table>

Key for Tables 3b and 3c:
- ✓ Permissible wall and floor combinations for flats/apartments requiring no pre-completion sound testing.
- F Only the separating floor requires pre-completion sound testing.
- W Only the separating wall requires pre-completion sound testing.
- see note 1

V-WT-1™ and V-WT-2™ may be constructed above in-situ poured concrete floors, provided:
- they meet all other requirements of the Robust Details™, including flanking constructions;
- the principles of the raft foundation junction are followed. As such, the concrete of the floor must have a mass of 365 kg/m² (min), and a floating floor treatment must be provided;

Walls constructed to the soffit of in-situ poured concrete floors can not be registered as Robust Details™ and may be subject to pre-completion sound testing.

See also notes relating to Combining loadbearing masonry and lightweight framed separating walls included on page 6.

Table 3c – Combinations of Robust Details™ separating walls and floors for flats/apartments in reinforced concrete and steel frame constructions

<table>
<thead>
<tr>
<th>Separating walls</th>
<th>Separating floors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No separating walls are currently approved for use for flats/apartments in reinforced concrete and steel frame constructions.
**Introduction**

**Table 4 – Combining Robust Details™ separating walls with non-Robust Details™ separating floors in flats/apartments**

<table>
<thead>
<tr>
<th>Loadbearing masonry</th>
<th>V-WM-11™</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>V-WM-14™</td>
<td>F1</td>
</tr>
<tr>
<td></td>
<td>V-WM-20™</td>
<td>F1</td>
</tr>
<tr>
<td></td>
<td>V-WM-21™</td>
<td>F1</td>
</tr>
<tr>
<td>Timber frame</td>
<td>V-WT-1™</td>
<td>F2</td>
</tr>
<tr>
<td></td>
<td>V-WT-2™</td>
<td>F2</td>
</tr>
<tr>
<td></td>
<td>V-WT-3™</td>
<td>F2</td>
</tr>
<tr>
<td></td>
<td>V-WT-4™</td>
<td>F2</td>
</tr>
</tbody>
</table>

**Key**

**F1** Only the separating floor requires pre-completion testing provided the floor does not bridge the separating wall cavity. Otherwise both the wall and floor need testing.

**F2** Only the separating floor requires pre-completion testing provided the floor is timber-based and does not bridge the separating wall cavity. Otherwise both the wall and floor need testing.

For any construction that requires a separating element to be tested, the user should seek expert acoustic advice on the design and potential acoustic performance.

**Table 5 – Combining Robust Details™ separating floors with non-Robust Details™ separating walls in flats/apartments**

<table>
<thead>
<tr>
<th>Timber frame</th>
<th>V-FT-1™</th>
<th>W3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>V-FT-2™</td>
<td>W3</td>
</tr>
<tr>
<td>Steel frame</td>
<td>V-FS-1™</td>
<td>W5</td>
</tr>
</tbody>
</table>

**Key**

**W3** Only the separating wall requires pre-completion testing if used with timber frame supporting walls and twin leaf timber frame separating walls. Otherwise both the floor and wall need testing.

**W5** Only the separating wall requires pre-completion testing provided the external wall meets the specification given in the separating floor Robust Detail™. Otherwise both the floor and wall need testing.

**Combining loadbearing masonry and lightweight framed separating walls**

Upper storeys of blocks of flats may be constructed using lightweight steel or timber frame, where the lower storeys are loadbearing masonry construction. The lightweight walls built directly off the uppermost precast concrete separating floors may be registered as Robust Details™ provided:

- the lightweight walls are in vertical alignment with the masonry walls below, such that they can follow the principles of the ground floor junction shown for the relevant Robust Details™ separating wall;
- the external (flanking) wall construction above the separating floor meets the requirements on page 2 of the relevant Robust Details™ separating wall, and have 2 layers of gypsum-based board;
- the junction between the bottom rail (or sole plate) is well sealed;
- all other relevant requirements in the Handbook are strictly followed.

Therefore, the lightweight walls directly above the floor, as well as the masonry walls directly below, may be subject to pre-completion sound testing.

The separating floor can be registered as a Robust Detail™ provided:

- the floor is constructed in accordance with the requirements of the published detail;
- the external (flanking) wall below the precast concrete floor satisfies the requirements of detail 1 on page 2 of the relevant Robust Details™ separating floor;
- all other relevant requirements in the Handbook are strictly followed.
### Introduction

Table 6 – Robust Detail™ separating walls which can be used together with the proprietary flanking constructions contained in Appendix A2

<table>
<thead>
<tr>
<th></th>
<th>BRIDGESTOP® system</th>
<th>Smartroof system</th>
<th>Kingspan TEK</th>
<th>Prestoplan PresPeak 60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loadbearing Masonry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V-WM-11™</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V-WM-14™</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V-WM-19™</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V-WM-20™</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V-WM-21™</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timber frame</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V-WT-1™</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>V-WT-2™</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>V-WT-3™</td>
<td>✔</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>V-WT-4™</td>
<td></td>
<td></td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>
**Introduction**

Table 7 – Robust Detail™ separating floors which can be used together with alternative products contained in Appendix A3

<table>
<thead>
<tr>
<th></th>
<th>British Gypsum GypFloor</th>
<th>Insulate Insulation tray</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Timber floors</strong></td>
<td>V-FT-1™</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>V-FT-2™</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Steel-concrete and steel floors</strong></td>
<td>V-FS-1™</td>
<td>✓</td>
</tr>
</tbody>
</table>
Separating Wall – Cavity Masonry

Lightweight aggregate, or nominated hollow or cellular blocks
Render and gypsum-based board on dabs
Minimum 100mm cavity

- Block density 1350 to 1600 kg/m³
- Wall ties ‘Tie type A’ (see Appendix A)
- Cavity width 100mm (min)
- Block thickness 100mm (min), each leaf
- Wall finish Gypsum-based board (nominal 8 kg/m²) mounted on dabs on cement:sand render (nominal 8mm) with scratch finish
  Typical render mix 1:1:6 to 1:1/2:4. Render mix must not be stronger than background (see Appendix A)
- External (flanking) wall Masonry (both leaves) with 50mm (min) cavity – clear, fully filled or partially filled with insulation

Alternative internal renders
British Gypsum Gyproc Soundcoat Plus (nominal 8mm, minimum 6mm)
Knauf Gypsum Parge Coat (nominal 8mm, minimum 6mm)
Lafarge Ecoat Parge Coat (nominal 8mm, minimum 6mm)
applied in accordance with the manufacturer’s instructions.

Hollow or Cellular Blocks
The Besblock Star Performer is the only block of this type currently accepted for use as an alternative to solid blocks in V-WM-11™.
The separating wall must not be constructed using a mix of the block types.

Separating wall cavity insulation (optional)
The cavity may be insulated with mineral wool with a maximum density of 40 kg/m³.

DO
- Keep cavity and wall ties (and insulation) free from mortar droppings and debris
- Fully fill all blockwork joints with mortar
- Make sure there is no connection between the two leaves except for wall ties and foundation (and insulation)
- Ensure cavity is minimum 100mm wide and that correct wall ties are used
- Ensure that only solid blocks or the nominated hollow or cellular blocks are used in the construction of separating and flanking walls. Place blocks with cellular holes open to lower mortar bed
- Keep any chases for services to a minimum and fill well with mortar. Stagger chases on each side of the wall to avoid them being back to back
- Ensure that render is applied to the complete face of each leaf with a scratch finish (it may be omitted within the floor joist/beam zone)
- Refer to Appendix A
Separating Wall – Cavity Masonry

1. External (flanking) wall junction

Masonry outer leaf

External wall cavity (min 50mm)

Close external wall cavity with a flexible cavity stop. (Optional if external wall cavity is fully filled with built in mineral wool insulation)

Inner leaf where there is no separating floor e.g. for houses

- 100mm (min) concrete block (850 kg/m$^3$ to 1600 kg/m$^3$) or aircrete block (450 kg/m$^3$ to 800 kg/m$^3$) or Besblock “Star Performer” block
- internal finish – 13mm plaster or nominal 8 kg/m$^2$ gypsum-based board

Inner leaf where there is a separating floor e.g. for flats/apartments

- if using robust detail™ for floor, refer to Table 3a in introduction to select an acceptable robust detail™ separating floor. Then refer to separating floor robust detail™ to identify acceptable inner leaf construction or use Besblock “Star Performer” block
- if using floor requiring pre-completion testing, seek specialist advice

Tooth or tie walls together

2. Staggered external (flanking) wall junction

Masonry outer leaf

External wall cavity (min 50mm)

Inner leaf where there is no separating floor e.g. for houses

- 100mm (min) concrete block (850 kg/m$^3$ to 1600 kg/m$^3$) or aircrete block (450 kg/m$^3$ to 800 kg/m$^3$) or Besblock “Star Performer” block
- internal finish – 13mm plaster or nominal 8 kg/m$^2$ gypsum-based board

Inner leaf where there is a separating floor e.g. for flats/apartments

- if using robust detail™ for floor, refer to Table 3a in introduction to select an acceptable robust detail™ separating floor. Then refer to separating floor robust detail™ to identify acceptable inner leaf construction or use Besblock “Star Performer” block
- if using floor requiring pre-completion testing, seek specialist advice

Tooth or tie walls together

Close external wall cavity with a flexible cavity stop. (Optional if external wall cavity is fully filled with built in mineral wool insulation)
Separating Wall – Cavity Masonry

3. Internal floor junction: timber floor supported on joist hangers

- Complete wall face rendered (except in the floor joist/beam zone where it may be omitted)
- Internal floor
- Continuous horizontal ribbon of adhesive

Section

100mm (min)

4. Internal floor junction: timber floor joists built in, beam and block or precast concrete

- Complete wall face rendered (except in the floor joist/beam zone where it may be omitted)
- Internal floor
- Internal floors should not be continuous between dwellings
- Floor construction:
  - timber joists built in with:
    - all voids around the joists filled with mortar
    - the joint interface between the joist and the mortar sealed with flexible sealant (see Appendix A for full specification), or
  - beam and block floor with all voids filled with mortar, or
  - concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant
- Continuous horizontal ribbon of adhesive

Section

100mm (min)

Sketch shows timber joists built in
5. Separating floor junction

Separating wall must not be continuous between storeys

Complete wall surface rendered (except in the floor joist/beam zone where it may be omitted)

5mm (min) resilient flanking strip

Concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant

Separating floor must not be continuous between dwellings

Separating floor:
- if using robust detail™ for floor, refer to Table 3a in introduction and see separating floor robust detail™ for floating floor and ceiling options
- if using floor requiring pre-completion testing, seek specialist advice

Continuous horizontal ribbon of adhesive

Sketch shows E-FC-1™ type separating floor, FFT1™ type floating floor treatment and CT3™ type ceiling

6. Ground floor junction: timber floor, beam and block, precast concrete plank, cast in-situ suspended concrete slab or ground bearing concrete slab

Complete wall face rendered (except in the floor joist/beam zone where it may be omitted)

Ground floor not continuous between dwellings

Ground floor construction:
- timber joists built in with:
  - all voids around the joists filled with mortar
  - the joint interface between the joist and the mortar sealed with flexible sealant (see Appendix A for full specification), or
- beam and block floor with all voids filled with mortar, or
- concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant, or
- ground bearing slab

Cavity separating wall continuous to foundation, cavity fill may be provided below minimum clear cavity indicated. Continuous raft foundations between dwellings are not acceptable. Solid walls which support separating walls are only acceptable where each ground floor (not timber joists) is built into one side of the separating wall and breaks the vertical continuity of the wall and the minimum clear cavity indicated is maintained.
7. Roof junction – pitched roof without room-in-roof

Junction between separating wall and roof filled with flexible closer

Cavity masonry separating wall continuous to underside of roof. Alternatively use spandrel panel – see Appendix A

External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf

Continuous horizontal ribbon of adhesive

100mm (min) mineral wool insulation – 10 kg/m³ (min)

8. Roof junction – pitched roof with room-in-roof

Junction between separating wall and roof filled with flexible closer

100mm (min) mineral wool insulation minimum density 10 kg/m³ or 60mm (min) foil faced PUR or PIR insulation, minimum density 30 kg/m³ (See Appendix A)

2 layers of nominal 8 kg/m² gypsum-based board. Where used rigid insulation may be placed between and/or directly beneath rafters

Continuous ribbon of adhesive

Cavity masonry separating wall continuous to underside of roof covering

External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf

100mm (min)
9. Flue blocks built into separating wall

- Flue block (stagger flues in accordance with the manufacturer’s instructions)
- Nominal 8mm render
- Gypsum-based board (nominal 8 kg/m²) on dabs
- High density block (minimum 2270 kg/m³) behind starter blocks from ground level up to at least where gather blocks start
- Starter block (stagger in accordance with the manufacturer’s instructions)
- Continuous plaster fillet around fire opening
# Checklist

**Separating Wall – Cavity Masonry**

**V-WM-11™**

## Checklist (to be completed by site manager/supervisor)

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item</th>
<th>Yes (✓)</th>
<th>No (✗)</th>
<th>Inspected (initials &amp; date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Is separating wall cavity at least 100mm?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Is external (flanking) wall cavity at least 50mm?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Are separating wall blocks lightweight aggregate (1350 to 1600 kg/m³) or Besblock “Star Performer”? Are blocks laid with the cells open to the lower bed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Is cavity free from droppings and debris?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Are separating wall ties “Tie type A” (see appendix A)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Are cavity stops installed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Are joints fully filled?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Are voids around floor joists, chases, etc. fully filled/sealed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Is render coat applied to the whole wall face (except where it may be omitted between floor joists/beams)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Where there is a separating floor (e.g. flats/apartments) has the resilient flanking strip been installed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Are all junctions of wall and ceiling boards sealed with tape or caulked with sealant?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Is separating wall satisfactorily complete?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Notes (include details of any corrective action)

Site manager/supervisor signature: ____________________________

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Separating Wall – Cavity Masonry

DO

- Keep cavity, insulation batts and wall ties free from mortar droppings and debris
- Fully fill all blockwork joints with mortar
- Make sure there is no connection between the two leaves except for wall ties and foundation
- Ensure that only solid blocks (i.e. not hollow or cellular) are used in the construction of separating and flanking walls
- Ensure all Isover RD35 acoustic batts are tightly butted together and half cuts are made with a clean sharp knife
- Ensure that Isover RD35 acoustic batts are installed against the same face of the cavity wall construction throughout
- Ensure Isover RD35 acoustic batts are installed in accordance with manufacturer’s recommendations
- Ensure Isover RD35 acoustic batts do not bridge the cavity
- Keep any chases for services to a minimum and fill well with mortar. Stagger chases on each side of the wall to avoid them being back to back
- Refer to Appendix A

Lightweight aggregate blocks
- 35mm (minimum) Saint Gobain-Isover RD35 Acoustic Batt
- Gypsum-based board (nominal 9.8 kg/m²) on dabs

Block density 1350 to 1600 kg/m³
Wall ties Insulation retaining wall ties to ‘Tie type A’ (see Appendix A)
Cavity width 100mm (min) leaf-to-leaf
Block thickness 100mm (min), each leaf
Wall finish Gypsum-based board (nominal 9.8 kg/m²) mounted on dabs
Insulation 35mm (min) Isover RD35 mineral wool acoustic batt
External (flanking) wall Masonry (both leaves) with 50mm (min) cavity – clear, fully filled or partially filled with insulation
1. External (flanking) wall junction

Masonry outer leaf

External wall cavity (min 50mm)

Close cavity with a flexible cavity stop unless it is fully filled with built in mineral wool insulation

35mm (min) Isover RD35 mineral wool acoustic batt (no gaps to remain)

Inner leaf where there is no separating floor

- 100mm (min) concrete block (1350 kg/m³ to 1600 kg/m³) or aircrete block (450 kg/m³ to 800 kg/m³)
- Internal finish – 13mm plaster or nominal 8 kg/m² gypsum-based board

Inner leaf where there is a separating floor

- if using robust detail™ for floor, refer to Table 3a in introduction to select an acceptable robust detail™ separating floor. Then refer to separating floor robust detail™ to identify acceptable inner leaf construction
- if using floor requiring pre-completion testing, seek specialist advice

Tooth or tie walls together

2. Staggered external (flanking) wall junction

Masonry outer leaf

External wall cavity (min 50mm)

Inner leaf where there is no separating floor

- 100mm (min) concrete block (1350 kg/m³ to 1600 kg/m³) or aircrete block (450 kg/m³ to 800 kg/m³)
- Internal finish – 13mm plaster or nominal 8 kg/m² gypsum-based board

Inner leaf where there is a separating floor

- if using robust detail™ for floor, refer to Table 3a in introduction to select an acceptable robust detail™ separating floor. Then refer to separating floor robust detail™ to identify acceptable inner leaf construction
- if using floor requiring pre-completion testing, seek specialist advice

35mm (min) Isover RD35 mineral wool acoustic batt (no gaps to remain)

Tooth or tie walls together

Close cavity with a flexible cavity stop unless it is fully filled with built in mineral wool insulation
3. Internal floor junction: timber floor supported on joist hangers

- 35mm (min) Isover RD35 mineral wool acoustic batt (no gaps to remain)
- Internal floor
- Continuous horizontal ribbon of adhesive

4. Internal floor junction: timber floor joists built in, beam and block or precast concrete

- 35mm (min) Isover RD35 mineral wool acoustic batt (no gaps to remain)
- Internal floor
- Internal floors should not be continuous between dwellings
- Continuous horizontal ribbon of adhesive

Floor construction:
- timber joists built in with:
  - all voids around the joists filled with mortar
  - the joint interface between the joist and the mortar sealed with flexible sealant (see Appendix A for full specification), or
- beam and block floor with all voids filled with mortar, or
- concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant

Sketch shows timber joists built in.
5. Separating floor junction

- 35mm (min) Isover RD35 mineral wool acoustic batt (no gaps to remain)
- Separating wall must not be continuous between storeys
- 5mm (min) resilient flanking strip
- Concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant
- Separating floor must not be continuous between dwellings
- Separating floor:
  - if using robust detail™ for floor, refer to Table 3a in introduction and see separating floor robust detail™ for floating floor and ceiling options
  - if using floor requiring pre-completion testing, seek specialist advice
- Continuous horizontal ribbon of adhesive

Sketch shows E-FC-1™ type separating floor, FFT1™ type floating floor treatment and CT3™ type ceiling

6. Ground floor junction: timber floor, beam and block, precast concrete plank, cast in-situ suspended concrete slab or ground bearing concrete slab

- 35mm (min) Isover RD35 mineral wool acoustic batt (no gaps to remain)
- Ground floor not continuous between dwellings
- Ground floor construction:
  - timber joists built in with:
    - all voids around the joists filled with mortar
    - the joint interface between the joist and the mortar sealed with flexible sealant (see Appendix A for full specification), or
  - beam and block floor with all voids filled with mortar, or
  - concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant, or
  - ground bearing slab
- Cavity separating wall continuous to foundation, cavity fill may be provided below minimum clear cavity indicated. Continuous raft foundations between dwellings are not acceptable. Solid walls which support separating walls are only acceptable where each ground floor (not timber joists) is built into one side of the separating wall and breaks the vertical continuity of the wall and the minimum clear cavity indicated is maintained.
7. Roof junction – pitched roof without room-in-roof

- Junction between separating wall and roof filled with flexible closer
- Cavity masonry separating wall continuous to underside of roof. Alternatively use spandrel panel – see Appendix A
- External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf
- Continuous horizontal ribbon of adhesive
- 100mm (min) mineral wool insulation – 10 kg/m³ (min)
- 35mm (min) Isover RD35 mineral wool acoustic batt (no gaps to remain)

8. Roof junction – pitched roof with room-in-roof

- Junction between separating wall and roof filled with flexible closer
- 100mm (min) mineral wool insulation minimum density 10 kg/m³ or 60mm (min) foil faced PUR or PIR insulation, minimum density 30 kg/m³ (See Appendix A)
- 2 layers of nominal 8 kg/m² gypsum-based board. Where used rigid insulation may be placed between and/or directly beneath rafters
- Continuous horizontal ribbon of adhesive
- Cavity masonry separating wall continuous to underside of roof covering
- 35mm (min) Isover RD35 mineral wool acoustic batt (no gaps to remain)
- External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf
9. Flue blocks built into separating wall

Ensure that mortar and debris does not collect on the insulation batts, to avoid a connection between the wall leaves.
## Separating Wall – Cavity Masonry

### CHECKLIST (to be completed by site manager/supervisor)

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item</th>
<th>Yes</th>
<th>No</th>
<th>Inspected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Is separating wall cavity at least 100mm?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Is external (flanking) wall cavity at least 50mm?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Are separating wall blocks lightweight aggregate (1350 to 1600 kg/m³)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Is cavity free from droppings and debris?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Are insulation retaining ties in separating wall “Tie type A” (see Appendix A)?</td>
<td></td>
<td></td>
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<tr>
<td>6.</td>
<td>Are cavity stops installed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Are joints fully filled?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8.</td>
<td>Is Isover RD35 fixed in the cavity?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Are insulation batts tightly butted together?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10.</td>
<td>Are voids around floor joists, chases, etc. fully filled/sealed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Where there is a separating floor (e.g. flats/apartments) has the resilient flanking strip been installed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Are all junctions of wall and ceiling boards sealed with tape or caulked with sealant?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Is separating wall satisfactorily complete?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contact details for technical assistance from Saint Gobain-Isover, manufacturer of Isover RD35 acoustic Batt:

**Telephone:** 01159 451143  
**Fax:** 01159 451915  
**E-mail:** isover.enquiries@saint-gobain.com

### Notes (include details of any corrective action)

Site manager/supervisor signature ...........................................
Separating Wall – Cavity Masonry

Minimum 100mm cavity wall with the MONARFLOOR® BRIDGESTOP® system

- Dense or lightweight aggregate blocks or nominated hollow or cellular blocks
- Render and gypsum-based board on dabs
- Attached houses only

| Block density | 1350 to 1600 kg/m³ or 1850 to 2300 kg/m³ |
| Wall ties      | Wall ties must be Ancon Building Products Staifix HRT4 |
| Cavity width   | 100mm (min) |
| Block thickness| 100mm (min), each leaf |
| Wall finish    | Gypsum-based board (nominal 8 kg/m²) mounted on dabs on cement:sand render (nominal 8mm) with scratch finish. Typical render mix 1:1:6 to 1:1:2:4. Render mix must not be stronger than background (see Appendix A) |
| External (flanking) wall | Masonry (both leaves) with 50mm (min) cavity – clear, fully filled or partially filled with insulation |

Alternative internal renders

- British Gypsum Gyproc Soundcoat Plus (nominal 8mm, minimum 6mm)
- Knauf Gypsum Parge Coat (nominal 8mm, minimum 6mm)
- Lafarge Ecoat Parge Coat (nominal 8mm, minimum 6mm)

Applied in accordance with the manufacturer’s instructions.

Hollow or Cellular Blocks

The Besblock Star Performer is the only block of this type currently accepted for use as an alternative to solid blocks in V-WM-19™.

The separating wall must not be constructed using a mix of the block types.

Separating wall cavity insulation

- Separating wall cavity insulation (optional)
- The cavity may be insulated with mineral wool with a maximum density of 40 kg/m³.

DO

- Keep cavity and wall ties (and insulation) free from mortar droppings and debris
- Fully fill all blockwork joints with mortar
- Make sure there is no connection between the two leaves except for wall ties and foundation (and insulation)
- Ensure cavity is minimum 100mm wide and that correct wall ties are used
- Ensure that only solid blocks or the nominated hollow or cellular blocks are used in the construction of separating and flanking walls. Place blocks with cellular holes open to lower mortar bed
- Keep any chases for services to a minimum and fill well with mortar. Stagger chases on each side of the wall to avoid them being back to back
- Ensure that render is applied to the complete face of each leaf with a scratch finish (it may be omitted within the floor joist/beam zone)
- Refer to Appendix A
1. External (flanking) wall junction

- Masonry outer leaf
- External wall cavity (min 50mm)
- Close external wall cavity with a flexible cavity stop. (Optional if external wall cavity is fully filled with built in mineral wool insulation)
- Inner leaf
  - 100mm (min) concrete block (1350 kg/m³ to 1600 kg/m³ or 1850 kg/m³ to 2300 kg/m³) or aircrrete block (450 kg/m³ to 800 kg/m³) or Besblock "Star Performer" block
  - internal finish – 13mm plaster or nominal 8 kg/m² gypsum-based board
- Tooth or tie walls together

2. Staggered external (flanking) wall junction

- Masonry outer leaf
- External wall cavity (min 50mm)
- Inner leaf
  - 100mm (min) concrete block (1350 kg/m³ to 1600 kg/m³ or 1850 kg/m³ to 2300 kg/m³) or aircrrete block (450 kg/m³ to 800 kg/m³) or Besblock "Star Performer" block
  - internal finish – 13mm plaster or nominal 8 kg/m² gypsum-based board
- Tooth or tie walls together
- Close external wall cavity with a flexible cavity stop. (Optional if external wall cavity is fully filled with built in mineral wool insulation)
3. Internal floor junction: timber floor supported on joist hangers

Complete wall face rendered (except in the floor joist/beam zone where it may be omitted)

Internal floor

Continuous horizontal ribbon of adhesive

Section

100mm (min)

4. Internal floor junction: timber floor joists built in, beam and block or precast concrete

Complete wall face rendered (except in the floor joist/beam zone where it may be omitted)

Internal floor

Internal floors should not be continuous between dwellings

Floor construction:
- timber joists built in with:
  - all voids around the joists filled with mortar
  - the joint interface between the joist and the mortar sealed with flexible sealant (see Appendix A for full specification), or
- beam and block floor with all voids filled with mortar, or
- concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant

Continuous horizontal ribbon of adhesive

Sketch shows timber joists built in
5. **Ground floor junction: insulated raft foundation**

Complete wall surface rendered (except in the floor joist/beam zone where it may be omitted)

MONAFLOOR® BRIDGESTOP® Tie to penetrate at max 450mm centres. Ties are reversible. May also be used as render depth marker.

MONAFLOOR® BRIDGESTOP® Quilt in two lifts to prevent mortar droppings touching both masonry leaves.

Insulated screed or floating floor treatment (see Appendix A2 for details)

500mm wide MONAFLOOR® BRIDGESTOP® 3mm HP Acoustic Membrane laid under the party wall over the dpm. This is an integral part of the system.

Insitu concrete 365kg/m² (min) mass per unit area.

<table>
<thead>
<tr>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>150mm (min)</td>
</tr>
<tr>
<td>100mm (min)</td>
</tr>
</tbody>
</table>

6. **Ground floor junction: timber floor, beam and block, precast concrete plank, cast in-situ suspended concrete slab or ground bearing concrete slab**

Complete wall face rendered (except in the floor joist/beam zone where it may be omitted)

MONAFLOOR® BRIDGESTOP® Tie to penetrate at max 450mm centres. Ties are reversible. May also be used as render depth marker.

MONAFLOOR® BRIDGESTOP® Quilt in two lifts to prevent mortar droppings touching both masonry leaves.

Ground floor not continuous between dwellings

Ground floor construction:
- timber joists built in with:
  - all voids around the joists filled with mortar
  - the joint interface between the joist and the mortar sealed with flexible sealant (see Appendix A for full specification), or
- beam and block floor with all voids filled with mortar, or
- concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant, or
- ground bearing slab

BRIDGESTOP® system can be positioned on top of floor structure.

<table>
<thead>
<tr>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>100mm (min)</td>
</tr>
</tbody>
</table>

500mm wide MONAFLOOR® BRIDGESTOP® 3mm HP Acoustic Membrane laid under the party wall over the dpm. This is an integral part of the system.
7. Roof junction – pitched roof without room-in-roof

- Junction between separating wall and roof filled with flexible closer
- Cavity masonry separating wall continuous to underside of roof. Alternatively use spandrel panel – see Appendix A
- External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf
- Continuous horizontal ribbon of adhesive
- 100mm (min) mineral wool insulation – 10 kg/m³ (min)

8. Roof junction – pitched roof with room-in-roof

- Junction between separating wall and roof filled with flexible closer
- 100mm (min) mineral wool insulation minimum density 10 kg/m³ or 60mm (min) foil faced PUR or PIR insulation, minimum density 30 kg/m³ (See Appendix A)
- 2 layers of nominal 8 kg/m² gypsum-based board. Where used rigid insulation may be placed between and/or directly beneath rafters
- Continuous ribbon of adhesive
- Cavity masonry separating wall continuous to underside of roof covering
- External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf
## Separating Wall – Cavity Masonry  

### CHECKLIST (to be completed by site manager/supervisor)

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item</th>
<th>Yes</th>
<th>No</th>
<th>Inspected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Is separating wall cavity at least 100mm?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Is external (flanking) wall cavity at least 50mm?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Are separating wall blocks solid aggregate (1350-1600 kg/m³ or 1850-2300 kg/m³) or Besblock “Star Performer” (with cells open to lower bed)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Has 500mm wide MONARFLOOR® BRIDGESTOP® 3mm HP Acoustic Membrane been laid under the party wall over the dpm?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Has MONARFLOOR® BRIDGESTOP® Quilt been installed in 2 lifts with MONARFLOOR® BRIDGESTOP® Ties?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Is cavity above the quilt free from droppings and debris?</td>
<td></td>
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</tr>
<tr>
<td>7.</td>
<td>Are separating wall ties Staifix HRT4?</td>
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<tr>
<td>8.</td>
<td>Are cavity stops installed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Are all block joints fully filled?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Are voids around floor joists, chases, etc. fully filled/sealed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Is render coat applied to the whole wall face (except where it may be omitted between floor joists/beams)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Are all junctions of wall and ceiling boards sealed with tape or caulked with sealant?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Is separating wall satisfactorily complete?</td>
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</tbody>
</table>

### Notes (include details of any corrective action)

Site manager/supervisor signature  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

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**Separating Wall – Cavity Masonry**

**V-WM-20™**

- Lightweight aggregate blocks
- Isover RD Party Wall Roll or Isover Round The House Roll
- Gypsum-based board (nominal 9.8 kg/m²) on dabs

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block density</td>
<td>1350 to 1600 kg/m³</td>
</tr>
<tr>
<td>Wall ties</td>
<td>‘Tie type A’ (see Appendix A)</td>
</tr>
<tr>
<td>Cavity width</td>
<td>100mm (min)</td>
</tr>
<tr>
<td>Block thickness</td>
<td>100mm (min), each leaf</td>
</tr>
<tr>
<td>Wall finish</td>
<td>Gypsum-based board</td>
</tr>
<tr>
<td>Insulation</td>
<td>100mm Isover RD Party Wall Roll or 100mm Isover Round The House Roll</td>
</tr>
<tr>
<td>External (flanking) wall</td>
<td>Masonry (both leaves) with 50mm (min) cavity – clear, fully filled or partially filled with insulation</td>
</tr>
</tbody>
</table>

**DO**

- Keep cavity, insulation rolls and wall ties free from mortar droppings and debris
- Fully fill all blockwork joints with mortar
- Make sure there is no connection between the two leaves except for wall ties, insulation and foundation
- Ensure that only solid blocks (i.e. not hollow or cellular) are used in the construction of separating and flanking walls
- Ensure all 100mm Isover RD Party Wall Rolls or 100mm Round The House Rolls are tightly butted together and half cuts are made with a clean sharp knife and are installed in accordance with the manufacturer’s instructions
- Keep any chases for services to a minimum and fill well with mortar. Stagger chases on each side of the wall to avoid them being back to back
- Refer to Appendix A
- Ensure that either ‘Isover RD Party Wall Roll’ or ‘Isover Round The House Roll’ is printed on the insulation material.
Separating Wall – Cavity Masonry

1. External (flanking) wall junction

- Masonry outer leaf
- External wall cavity (min 50mm)
- Close external wall cavity with a flexible cavity stop. (Optional if external wall cavity is fully filled with built in mineral wool insulation)
- 100mm Isover RD Party Wall Roll or 100mm Isover Round The House Roll (no gaps to remain)
- Inner leaf where there is no separating floor e.g. for houses
  - 100mm (min) concrete block (1350 kg/m³ to 1600 kg/m³) or aircrete block (450 kg/m³ to 800 kg/m³)
  - Internal finish – 13mm plaster or nominal 8 kg/m² gypsum-based board
- Inner leaf where there is a separating floor e.g. for flats/apartments
  - If using robust detail™ for floor, refer to Table 3a in introduction to select an acceptable robust detail™ separating floor. Then refer to separating floor robust detail™ to identify acceptable inner leaf construction
  - If using floor requiring pre-completion testing, seek specialist advice
- Tooth or tie walls together

2. Staggered external (flanking) wall junction

- Masonry outer leaf
- External wall cavity (min 50mm)
- Inner leaf where there is no separating floor e.g. for houses
  - 100mm (min) concrete block (1350 kg/m³ to 1600 kg/m³) or aircrete block (450 kg/m³ to 800 kg/m³)
  - Internal finish – 13mm plaster or nominal 8 kg/m² gypsum-based board
- Inner leaf where there is a separating floor e.g. for flats/apartments
  - If using robust detail™ for floor, refer to Table 3a in introduction to select an acceptable robust detail™ separating floor. Then refer to separating floor robust detail™ to identify acceptable inner leaf construction
  - If using floor requiring pre-completion testing, seek specialist advice
- Tooth or tie walls together
- Close external wall cavity with a flexible cavity stop. (Optional if external wall cavity is fully filled with built in mineral wool insulation)
3. Internal floor junction: timber floor supported on joist hangers

![Diagram of timber floor junction](image)

- 100mm Isover RD Party Wall Roll or 100mm Isover Round The House Roll (no gaps to remain)
- Continuous horizontal ribbon of adhesive
- Internal floor

4. Internal floor junction: timber floor joists built in, beam and block or precast concrete

![Diagram of timber floor junction](image)

- 100mm Isover RD Party Wall Roll or 100mm Isover Round The House Roll (no gaps to remain)
- Internal floor
- Continuous horizontal ribbon of adhesive
- Internal floors should not be continuous between dwellings

**Floor construction:**
- timber joists built in with:
  - all voids around the joists filled with mortar
  - the joint interface between the joist and the mortar sealed with flexible sealant (see Appendix A for full specification), or
- beam and block floor with all voids filled with mortar, or
- concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant

Sketch shows timber joists built in
5. Separating floor junction

Separating wall must not be continuous between storeys

5mm (min) resilient flanking strip

Concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant

Separating floor must not be continuous between dwellings

Separating floor:
- if using robust detail™ for floor, refer to Table 3a in introduction and see separating floor robust detail™ for floating floor and ceiling options
- if using floor requiring pre-completion testing, seek specialist advice

Continuous horizontal ribbon of adhesive

Sketch shows E-FC-1™ type separating floor, FFT1™ type floating floor treatment and CT3™ type ceiling

6. Ground floor junction: timber floor, beam and block, precast concrete plank, cast in-situ suspended concrete slab or ground bearing concrete slab

Ground floor not continuous between dwellings

Ground floor construction:
- timber joists built in with:
  - all voids around the joists filled with mortar
  - the joint interface between the joist and the mortar sealed with flexible sealant (see Appendix A for full specification), or
- beam and block floor with all voids filled with mortar, or
- concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant, or
- ground bearing slab

Cavity separating wall continuous to foundation, cavity fill may be provided below minimum clear cavity indicated. Continuous raft foundations between dwellings are not acceptable. Solid walls which support separating walls are only acceptable where each ground floor (not timber joists) is built into one side of the separating wall and breaks the vertical continuity of the wall and the minimum clear cavity indicated is maintained.
7. Roof junction – pitched roof without room-in-roof

Junction between separating wall and roof filled with flexible closer

Cavity masonry separating wall continuous to underside of roof. Alternatively use spandrel panel – see Appendix A

External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf

Continuous horizontal ribbon of adhesive

100mm (min) mineral wool insulation

– 10 kg/m³ (min)

100mm Isover RD Party Wall Roll or 100mm Isover Round The House Roll (no gaps to remain)

8. Roof junction – pitched roof with room-in-roof

Junction between separating wall and roof filled with flexible closer

100mm (min) mineral wool insulation minimum density 10 kg/m³ or 60mm (min) foil faced PUR or PIR insulation, minimum density 30 kg/m³ (See Appendix A)

2 layers of nominal 8 kg/m² gypsum-based board. Where used rigid insulation may be placed between and/or directly beneath rafters

Continuous horizontal ribbon of adhesive

Cavity masonry separating wall continuous to underside of roof covering

100mm Isover RD Party Wall Roll or Isover Round The House Roll (no gaps to remain)

External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf

Section
### CHECKLIST (to be completed by site manager/supervisor)

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item</th>
<th>Yes</th>
<th>No</th>
<th>Inspected (initials &amp; date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Is separating wall cavity at least 100mm?</td>
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<tr>
<td>2.</td>
<td>Is external (flanking) wall cavity at least 50mm?</td>
<td></td>
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<tr>
<td>3.</td>
<td>Are separating wall blocks lightweight aggregate (1350 to 1600 kg/m³)?</td>
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<tr>
<td>4.</td>
<td>Is cavity free from droppings and debris?</td>
<td></td>
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<tr>
<td>5.</td>
<td>Are separating wall ties “Tie type A” (see Appendix A)?</td>
<td></td>
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<tr>
<td>6.</td>
<td>Are cavity stops installed where specified in the robust detail™?</td>
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<td>7.</td>
<td>Are joints fully filled?</td>
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<tr>
<td>8.</td>
<td>Is 100mm RD Party Wall Roll or 100mm Isover Round The House Roll used?</td>
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<tr>
<td>9.</td>
<td>Are insulation rolls tightly butted together?</td>
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<tr>
<td>10.</td>
<td>Are voids around floor joists, chases, etc. fully filled/sealed?</td>
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<tr>
<td>11.</td>
<td>Where there is a separating floor (e.g. flats/apartments) has the resilient flanking strip been installed?</td>
<td></td>
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<tr>
<td>12.</td>
<td>Are all junctions of wall and ceiling boards sealed with tape or caulked with sealant?</td>
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<tr>
<td>13.</td>
<td>Is separating wall satisfactorily complete?</td>
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</tr>
</tbody>
</table>

Contact details for technical assistance from Saint Gobain-Isover, manufacturer of RD Party Wall Roll and Round The House Roll:

**Telephone:** 01159 451143  
**Fax:** 0844 5618816  
**E-mail:** isover.enquiries@saint-gobain.com

**Notes** (include details of any corrective action)

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®: UK registered trade mark no. 2291665  
™: trade mark
Separating Wall – Cavity Masonry

Lightweight aggregate blocks
Wet plaster
Minimum 100mm cavity

- Block density: 1350 to 1600 kg/m³
- Wall ties: “Tie type A” (see Appendix A)
- Cavity width: 100mm (min)
- Block thickness: 100mm (min), each leaf
- Wall finish: 13mm plaster or cement: sand render with plaster skim (min 10 kg/m²), both sides
- External (flanking) wall: Masonry (both leaves) with 50mm (min) cavity – clear, fully filled or partially filled with insulation

Separating wall cavity insulation (optional)
The cavity may be insulated with mineral wool with a maximum density of 40 kg/m³.

DO
- Keep cavity and wall ties (and insulation) free from mortar droppings and debris
- Fully fill all blockwork joints with mortar
- Make sure there is no connection between the two leaves except for wall ties and foundation (and insulation)
- Ensure that only solid blocks (i.e. not hollow or cellular) are used in the construction of separating and flanking walls
- Keep any chases for services to a minimum and fill well with mortar. Stagger chases on each side of the wall to avoid them being back to back
- Select an alternative robust detail™ where flues are required in the separating wall
- Refer to Appendix A
1. External (flanking) wall junction

Masonry outer leaf

External wall cavity (min 50mm)

Close external wall cavity with a flexible cavity stop. (Optional if external wall cavity is fully filled with built in mineral wool insulation)

Inner leaf where there is no separating floor e.g. for houses
- 100mm (min) concrete block (850 kg/m³ to 1600 kg/m³) or aircrete block (450 kg/m³ to 800 kg/m³)
- Internal finish - 13mm plaster or nominal 8 kg/m² gypsum-based board

Inner leaf where there is a separating floor e.g. for flats/apartments
- If using robust detail™ for floor, refer to Table 3a in introduction to select an acceptable robust detail™ separating floor. Then refer to separating floor robust detail™ to identify acceptable inner leaf construction
- If using floor requiring pre-completion testing, seek specialist advice

Tooth or tie walls together

2. Staggered external (flanking) wall junction

Masonry outer leaf

External wall cavity (min 50mm)

Inner leaf where there is no separating floor e.g. for houses
- 100mm (min) concrete block (850 kg/m³ to 1600 kg/m³) or aircrete block (450 kg/m³ to 800 kg/m³).
- Internal finish - 13mm plaster or nominal 8 kg/m² gypsum-based board

Inner leaf where there is a separating floor e.g. for flats/apartments
- If using robust detail™ for floor, refer to Table 3a in introduction to select an acceptable robust detail™ separating floor. Then refer to separating floor robust detail™ to identify acceptable inner leaf construction
- If using floor requiring pre-completion testing, seek specialist advice

Tooth or tie walls together

Close external wall cavity with a flexible cavity stop. (Optional if external wall cavity is fully filled with built in mineral wool insulation)
3. **Internal floor junction: timber floor supported on joist hangers**

4. **Internal floor junction: timber floor joists built in, beam and block or precast concrete**

   Internal floors should not be continuous between dwellings

   Floor construction:
   - timber joists built in with:
     - all voids around the joists filled with mortar
     - the joint interface between the joist and the mortar sealed with flexible sealant (see Appendix A for full specification), or
   - beam and block floor with all voids filled with mortar, or
   - concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant
5. Separating floor junction

- Separating wall must not be continuous between storeys
- Plaster complete wall surface
- 5mm (min) resilient flanking strip
- Concrete planks with all voids filled between planks and blockwork filled with mortar or flexible sealant
- Separating floor must not be continuous between dwellings
- Separating floor:
  - if using robust detail™ for floor, refer to Table 3a in introduction and see separating floor robust detail™ for floating floor and ceiling options
  - if using floor requiring pre-completion testing, seek specialist advice

Sketch shows E-FC-1™ type separating floor, FFT1™ type floating floor treatment and CT3™ type ceiling

6. Ground floor junction: timber floor, beam and block, precast concrete plank, cast in-situ concrete slab or ground bearing slab

- Plaster complete wall surface down to finished floor level
- Ground floor not continuous between dwellings
- Ground floor construction:
  - timber joists built in with:
    - all voids around the joists filled with mortar
    - the joint interface between the joist and the mortar sealed with flexible sealant (see Appendix A for full specification), or
  - beam and block floor with all voids filled with mortar, or
  - concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant, or
  - ground bearing slab
- Cavity separating wall continuous to foundation, cavity fill may be provided below minimum clear cavity indicated. Continuous raft foundations between dwellings are not acceptable. Solid walls which support separating walls are only acceptable where each ground floor (not timber joists) is built into one side of the separating wall and breaks the vertical continuity of the wall and the minimum clear cavity indicated is maintained.
### Separating Wall – Cavity Masonry

#### 7. Roof junction – pitched roof without room-in-roof

- Junction between separating wall and roof filled with flexible closer.
- Cavity masonry separating wall continuous to underside of roof. Alternatively use spandrel panel – see Appendix A.
- External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf.
- 100mm (min) mineral wool insulation – 10 kg/m³ (min)

#### 8. Roof junction – pitched roof with room-in-roof

- Junction between separating wall and roof filled with flexible closer.
- 100mm (min) mineral wool insulation minimum density 10 kg/m³ or 60mm (min) foil faced PUR or PIR insulation, minimum density 30 kg/m³ (See Appendix A).
- 2 layers of nominal 8 kg/m² gypsum-based board. Where used rigid insulation may be placed between and/or directly beneath rafters.
- Cavity masonry separating wall continuous to underside of roof covering.
- External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf.

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**January 2012**

5 of 6
## CHECKLIST (to be completed by site manager/supervisor)

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<td>10.</td>
<td>Is separating wall satisfactorily complete?</td>
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</table>

### Notes (include details of any corrective action)

Site manager/supervisor signature .................................


**Separating Wall – Timber Frame**

**V-WT-1™**

**Without sheathing board**

**Twin timber frames**

---

### Wall width

240mm (min) between inner faces of wall linings. 50mm (min) gap between studs (must not be bridged by any diagonal bracing)

### Wall lining

- 2 or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²), both sides
  - all joints staggered

### Absorbent material

60mm (min) mineral wool batts or quilt (density 10 – 60 kg/m³) both sides. Material may be unfaced, paper faced or wire-reinforced

### Ties

Ties between frames not more than 40mm x 3mm, at 1200mm (min) centres horizontally, one row of ties per storey height vertically

### External (flanking) wall

Outer leaf masonry with minimum 50mm cavity

---

**Note:** Partial sheathing of the cavity faces of the separating wall is permitted for structural reasons. This may be for a length of 1800mm (max) to each end of both leaves or to the entire face of one leaf. However, if the entire cavity face of both leaves requires sheathing board, robust detail V-WT-2™ must be used.

Structural framing details may vary slightly between different manufacturers and this is permitted, however, all dimension specifications within this RD must be adhered to.

---

**DO**

- Keep wall linings at least 240mm apart
- Ensure quilt or batts cover whole lining area, fitting tight between studs without sagging
- Ensure that all cavity stops/closers are flexible or are fixed to one frame only
- Make sure there is no connection between the two leaves except where ties are necessary for structural reasons (see above).
- Stagger joints in wall linings to avoid air paths
- Seal all joints in outer layer with tape or caulk with sealant
- Refer to Appendix A

---

V-WT-1 Jan 2012 S_Part E-WT-1-Jan2005  01/12/2011  10:30  Page 1
1. **External (flanking) wall junction**

   - Masonry outer leaf (min 100mm thick)
   - External wall cavity (min 50mm)
   - Sheathing board
   - Inner leaf where there is no separating floor, e.g. for houses
     - one layer of gypsum-based board nominal 8 kg/m²
   - Inner leaf where there is a separating floor, e.g. for flats/apartments
     - if using robust detail™ for floor, refer to Table 3b in introduction to select an acceptable robust detail™ separating floor and use two layers of gypsum-based board nominal 8kg/m² each layer
     - if using floor requiring pre-completion testing, seek specialist advice
   - Seal all perimeter joints with tape or caulk with sealant
   - Close cavity with a cavity stop (see Appendix A)
   - Mineral wool insulation 10 kg/m³ (min)

2. **Staggered external (flanking) wall junction**

   - Masonry outer leaf (min 100mm thick)
   - External wall cavity (min 50mm)
   - Inner leaf where there is no separating floor, e.g. for houses
     - one layer of gypsum-based board nominal 8 kg/m²
   - Inner leaf where there is a separating floor, e.g. for flats/apartments
     - if using robust detail™ for floor, refer to Table 3b in introduction to select an acceptable robust detail™ separating floor and use two layers of gypsum-based board nominal 8kg/m² each layer
     - if using floor requiring pre-completion testing, seek specialist advice
   - Seal all perimeter joints with tape or caulk with sealant
   - Close cavity with a cavity stop (see Appendix A)
   - Mineral wool insulation 10 kg/m³ (min)
3. Internal floor junction

- Floor decking may run under sole plates
- Internal floor
- Floor joists may span in either direction
- Internal floors should not be continuous between dwellings
- Close spaces between floor joists with full depth timber blocking where joists are at right angles to wall
- Seal all perimeter joints with tape or caulk with sealant

4. Separating floor junction

- 5mm (min) resilient flanking strip
- Floor decking may run under sole plates
- Floor joists may span in either direction
- Close spaces between floor joists with full depth timber blocking or continuous header joist where joists are at right angles to wall
- Separating floor:
  - if using robust detail™ for floor, refer to Table 3b in introduction and see robust detail™ for separating floor for floating floor and ceiling options
  - if using floor requiring pre-completion testing, seek specialist advice
- Seal all perimeter joints with tape or caulk with sealant
- Close cavity with a cavity stop (see Appendix A)
5. Internal wall junction

Seal all perimeter joints with tape or caulk with sealant
Internal partition wall

**Diagram 5.1** shows junction detail where the internal wall is fixed through the separating wall lining; other junction details are acceptable provided all joints are sealed with tape or caulked with sealant

**Diagram 5.2** shows junction where the separating wall lining is continuous

6. Ground floor junction: timber floor, beam and block, precast concrete plank, cast in-situ concrete suspended slab or ground bearing slab

Ground floors not continuous between dwellings
Flexible or acoustic sealant (may be omitted when timber ground floor is used)

Ground floor construction:
- timber floor joists:
  - may span in either direction
  - floor decking may run under sole plates
  - close spaces between floor joists with full depth timber blocking where joists are at right angles to wall, or
- beam and block floor with all voids filled with mortar, or
- precast concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant, or
- cast in-situ concrete suspended slab, or
- ground bearing slab
7. Raft foundation

- 5mm (min) resilient flanking strip
- Flexible or acoustic sealant
- A floating floor treatment must be used (for ground floor floating floor treatments mineral fibre quilt is not required between the battens or cradle system)
- Concrete raft - mass per unit area of 365 kg/m² (min)

8. Roof junction - pitched roof with no room-in-roof

- Junction between separating wall and roof filled with flexible closer
- Cavity separating wall continuous to underside of roof
- Wall lining above ceiling – 2 or more layers of gypsum-based board (minimum total nominal mass per unit area 16 kg/m²), both sides, all joints staggered
- Absorbent material not required in separating wall above ceiling
- External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf
- 100mm (min) mineral wool insulation, 10 kg/m³ (min), between ceiling joists
- Seal all perimeter joints with tape or caulk with sealant
9. Services and sockets in the separating wall

9.1 – electrical sockets, switches, etc.

Provide two or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²) to enclose electrical boxes.

Stagger sockets, switches, etc. on each side of the wall such that they are not positioned in opposite bays.

Alternatively provide a service void on surface of separating wall. This is the preferred method where more than one socket, switch, etc. are close together, e.g. in a kitchen.

Studs or battens used to create the service zone should be securely fixed back to the separating wall structure.

9.2 – piped services

Service duct within separating wall.

Provide two or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²) to enclose pipes.

Stagger services on each side of wall such that they are not positioned in opposite bays.

Note: this detail is not applicable for SVPs or gas pipes.
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See overleaf for checklist
## Checklist (to be completed by site manager/supervisor)

Company:  
Site:  
Plot:  
Site manager/supervisor:  

<table>
<thead>
<tr>
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<tr>
<td>1.</td>
<td>Are wall linings at least 240mm apart?</td>
<td></td>
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<tr>
<td>2.</td>
<td>Is absorbent material at least 60mm thick?</td>
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<tr>
<td>3.</td>
<td>Does absorbent material cover whole lining area except above ceiling line in roof void zone?</td>
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<tr>
<td>4.</td>
<td>Are all joints in wall lining staggered?</td>
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<tr>
<td>5.</td>
<td>Is separating wall lining correct mass per unit area on both sides?</td>
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<tr>
<td>6.</td>
<td>Are all joints sealed with tape or caulked with sealant?</td>
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<tr>
<td>7.</td>
<td>Are services installed in accordance with sketches 9.1 and 9.2?</td>
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<tr>
<td>8.</td>
<td>If there is a separating floor (e.g. in flats/apartments) has the resilient flanking strip been provided?</td>
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<tr>
<td>9.</td>
<td>Is separating wall satisfactorily complete?</td>
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**Notes** (include details of any corrective action)

Site manager/supervisor signature  

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Separating Wall – Timber Frame

**V-WT-2™**

*With sheathing board
Twin timber frames*

---

**Wall width**

240mm (min) between inner faces of wall linings. 50mm (min) gap between wall panels.

**Wall lining**

- 2 or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²), both sides - all joints staggered.

**Sheathing**

9mm (min) thick board.

**Absorbent material**

60mm (min) mineral wool batts or quilt (density 10 – 60 kg/m³) both sides. Material may be unfaced, paper faced or wire-reinforced.

**Ties**

Ties between frames not more than 40mm x 3mm, at 1200mm (min) centres horizontally, one row of ties per storey height vertically.

**External (flanking) wall**

Outer leaf masonry with minimum 50mm cavity.

---

**Note:** Structural framing details may vary slightly between different manufacturers and this is permitted, however, all dimension specifications within this RD must be adhered to.

**Separating wall cavity insulation (optional)**

The cavity may be insulated with mineral wool rolls or batts with a density of 18 – 40 kg/m³. Ensure insulation thickness is no greater than 10mm wider than cavity width to avoid excessive compression of the insulation.

**DO**

- Keep wall linings at least 240mm apart.
- Ensure that the 50mm (min) gap between the wall panels is maintained.
- Ensure quilt or batts cover whole lining area, fitting tight between studs without sagging.
- Ensure that all cavity stops/closers are flexible or are fixed to one frame only.
- Make sure there is no connection between the two leaves except where ties are necessary for structural reasons (see above).
- Stagger joints in wall linings to avoid air paths.
- Seal all joints in outer layer with tape or caulk with sealant.
- Refer to Appendix A.
Separating Wall – Timber Frame

1. External (flanking) wall junction

- Masonry outer leaf (min 100mm thick)
- External wall cavity (min 50mm)
- Sheathing board
- Inner leaf where there is no separating floor, e.g. for houses
  - one layer of gypsum-based board nominal 8 kg/m²
- Inner leaf where there is a separating floor, e.g. for flats/apartments
  - if using robust detail™ for floor, refer to Table 3b in introduction to select an acceptable robust detail™ separating floor and use two layers of gypsum-based board nominal 8kg/m² each layer
  - if using floor requiring pre-completion testing, seek specialist advice
- Close cavity with a cavity stop (see Appendix A)
- Seal all perimeter joints with tape or caulk with sealant
- Mineral wool insulation 10 kg/m³ (min)

2. Staggered external (flanking) wall junction

- Masonry outer leaf (min 100mm thick)
- External wall cavity (min 50mm)
- Inner leaf where there is no separating floor, e.g. for houses
  - one layer of gypsum-based board nominal 8 kg/m²
- Inner leaf where there is a separating floor, e.g. for flats/apartments
  - if using robust detail™ for floor, refer to Table 3b in introduction to select an acceptable robust detail™ separating floor and use two layers of gypsum-based board nominal 8kg/m² each layer
  - if using floor requiring pre-completion testing, seek specialist advice
- Seal all perimeter joints with tape or caulk with sealant
- Close cavity with a cavity stop (see Appendix A)
- Mineral wool insulation 10 kg/m³ (min)
3. Internal floor junction

- Floor decking may run under sole plates
- Internal floor
- Floor joists may span in either direction
- Internal floors should not be continuous between dwellings
- Close spaces between floor joists with full depth timber blocking where joists are at right angles to wall
- Seal all perimeter joints with tape or caulk with sealant

4. Separating floor junction

- 5mm (min) resilient flanking strip
- Floor decking may run under sole plates
- Floor joists may span in either direction
- Close spaces between floor joists with full depth timber blocking or continuous header joist where joists are at right angles to wall
- Separating floor:
  - if using robust detail™ for floor, refer to Table 3b in introduction and see robust detail™ separating floor for floating floor and ceiling options
  - if using floor requiring pre-completion testing, seek specialist advice
- Seal all perimeter joints with tape or caulk with sealant
- Close cavity with a cavity stop (see Appendix A)
5. Internal wall junction

Diagram 5.1 shows junction detail where the internal wall is fixed through the separating wall lining; other junction details are acceptable provided all joints are sealed with tape or caulked with sealant.

Diagram 5.2 shows junction where the separating wall lining is continuous.
6. Ground floor junction: timber floor, beam and block, precast concrete plank, cast in-situ concrete suspended slab or ground bearing slab

- Ground floors not continuous between dwellings
- Flexible or acoustic sealant (may be omitted when timber ground floor is used)
- Ground floor construction:
  - timber floor joists:
    - may span in either direction
    - floor decking may run under sole plates
    - close spaces between floor joists with full depth timber blocking where joists are at right angles to wall, or
  - beam and block floor with all voids filled with mortar, or
  - precast concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant, or
  - cast in-situ concrete suspended slab, or
  - ground bearing slab

7. Raft foundation

- 5mm (min) resilient flanking strip
- Flexible or acoustic sealant
- A floating floor treatment must be used (for ground floor floating floor treatments mineral fibre quilt is not required between the battens or cradle system)
- Concrete raft - mass per unit area of 365 kg/m² (min)

*Note – Ensure substructure masonry is correctly set out to enable timber frame to achieve the required gap between wall panels*
8. Roof junction - pitched roof with no room-in-roof

Junction between separating wall and roof filled with flexible closer
Cavity separating wall continuous to underside of roof
Wall lining above ceiling – 2 or more layers of gypsum-based board (minimum total nominal mass per unit area 16 kg/m²), both sides, all joints staggered
Absorbent material not required in separating wall above ceiling
External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf
100mm (min) mineral wool insulation, 10 kg/m³ (min), between ceiling joists
Seal all perimeter joints with tape or caulk with sealant

9. Roof junction - pitched roof with room-in-roof

Junction between separating wall and roof filled with flexible closer
100mm (min) mineral wool insulation minimum density 10 kg/m³ or 60mm (min) foil faced PUR or PIR insulation, minimum density 30 kg/m³ (See Appendix A)
2 layers of nominal 8 kg/m² gypsum-based board. Where used, rigid insulation may be placed between and/or directly beneath rafters
Seal all perimeter joints with tape or caulk with sealant
Cavity timber separating wall continuous to underside of roof covering
External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf
10. Services and sockets in the separating wall

**10.1 – electrical sockets, switches, etc.**

Provide two or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²) to enclose electrical boxes.

Stagger sockets, switches, etc. on each side of the wall such that they are not positioned in opposite bays.

Alternatively provide a service void on surface of separating wall. This is the preferred method where more than one socket, switch, etc. are close together, e.g. in a kitchen.

Studs or battens used to create the service zone should be securely fixed back to the separating wall structure.

**10.2 – piped services**

Service duct within separating wall.

Provide two or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²) to enclose pipes.

Stagger services on each side of wall such that they are not positioned in opposite bays.

Note: this detail is not applicable for SVPs or gas pipes.
## CHECKLIST (to be completed by site manager/supervisor)

### Company:

### Site:

### Plot: Site manager/supervisor:

<table>
<thead>
<tr>
<th>Ref.</th>
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<td>8.</td>
<td>Are services installed in accordance with sketches 10.1 and 10.2?</td>
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<tr>
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<td>10.</td>
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</tbody>
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### Notes (include details of any corrective action)

Site manager/supervisor signature ............................

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Separating Wall – Timber Frame

ElecoFrame prefabricated panels
Twin timber frames
For use in timber frame houses and flats/apartments

Wall width
240mm (min) between inner faces of wall linings.
50mm (min) gap between studs (must not be bridged by any diagonal bracing)

Wall lining
- 2 or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²), both sides
- all joints staggered

Absorbent material
60mm (min) mineral wool batts or quilt (density 10 – 60 kg/m³) both sides.
Material may be unfaced, paper faced or wire-reinforced

Ties
Ties between frames not more than 40mm x 3mm, at 1200mm (min) centres horizontally, one row of ties per storey height vertically

External (flanking) wall
Outer leaf masonry with minimum 50mm cavity.
Inner leaf lined with 45mm (min) foil faced PIR insulation, minimum density 32 kg/m³

Note: When using this robust detail™ in flats/apartments, please refer to Tables 3b and 4 of the Introduction

DO
- Keep wall linings at least 240mm apart
- Ensure quilt or batts cover whole lining area, fitting tight between studs without sagging
- Ensure that all cavity stops/closers are flexible or are fixed to one frame only
- Make sure there is no connection between the two leaves except where ties are necessary for structural reasons (see above).
- Stagger joints in wall linings to avoid air paths
- Seal all joints in outer layer with tape or caulk with sealant
- Refer to Appendix A

Note: Partial sheathing of the cavity faces of the separating wall is permitted for structural reasons. This may be for a length of 1800mm (max) to each end of both leaves or to the entire face of one leaf.
1. External (flanking) wall junction

Masonry outer leaf (min 100mm thick)
External wall cavity (min 50mm)
Inner leaf lined with 45mm (min) foil faced PIR insulation, minimum density 32 kg/m³

Inner leaf where there is no separating floor, e.g. for houses
- one layer of gypsum-based board nominal 8 kg/m²

Inner leaf where there is a separating floor, e.g. for flats/apartments
- use two layers of gypsum-based board nominal 8kg/m² each layer, and refer to Tables 3b and 4 in Introduction
- if using floor requiring pre-completion testing, seek specialist advice

Seal all perimeter joints with tape or caulk with sealant
Close cavity with cavity stops (see Appendix A)

2. Staggered external (flanking) wall junction

Masonry outer leaf (min 100mm thick)
External wall cavity (min 50mm)

Inner leaf where there is no separating floor, e.g. for houses
- one layer of gypsum-based board nominal 8 kg/m²

Inner leaf where there is a separating floor, e.g. for flats/apartments
- use two layers of gypsum-based board nominal 8kg/m² each layer, and refer to Tables 3b and 4 in Introduction
- if using floor requiring pre-completion testing, seek specialist advice

Seal all perimeter joints with tape or caulk with sealant
Close cavity with a cavity stop (see Appendix A)
Inner leaf lined with 45mm (min) foil faced PIR insulation, minimum density 32 kg/m³
3. Internal floor junction

- Floor decking may run under sole plates
- Internal floor
- Floor joists may span in either direction
- Internal floors should not be continuous between dwellings
- Close spaces between floor joists with full depth timber blocking where joists are at right angles to wall
- Seal all perimeter joints with tape or caulk with sealant

4. Internal wall junction

- Seal all perimeter joints with tape or caulk with sealant
- Internal partition wall

**Diagram 5.1** shows junction detail where the internal wall is fixed through the separating wall lining; other junction details are acceptable provided all joints are sealed with tape or caulked with sealant.

**Diagram 5.2** shows junction where the separating wall lining is continuous.
Separating Wall – Timber Frame

5. Ground floor junction: timber floor, beam and block, precast concrete plank, cast in-situ concrete suspended slab or ground bearing slab

Ground floors not continuous between dwellings
Flexible or acoustic sealant (may be omitted when timber ground floor is used)
Ground floor construction:
- timber floor joists:
  - may span in either direction
  - floor decking may run under sole plates
  - close spaces between floor joists with full depth timber blocking where joists are at right angles to wall, or
- beam and block floor with all voids filled with mortar, or
- precast concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant, or
- cast in-situ concrete suspended slab, or
- ground bearing slab

6. Raft foundation

5mm (min) resilient flanking strip
Flexible or acoustic sealant
A floating floor treatment must be used (for ground floor floating floor treatments mineral fibre quilt is not required between the battens or cradle system)
Concrete raft - mass per unit area of 365 kg/m² (min)

Alternative detail with screed finish
Mastic sealant, ensure skirting and wall lining are isolated from screed
Perimeter insulation, isolating screed from timber frame
Below screed insulation, isolating screed from raft
Polyethylene
7. Roof junction - pitched roof with no room-in-roof

- Junction between separating wall and roof filled with flexible closer
- Cavity separating wall continuous to underside of roof
- Wall lining above ceiling – 2 or more layers of gypsum-based board (minimum total nominal mass per unit area 16 kg/m²), both sides, all joints staggered
- Absorbent material not required in separating wall above ceiling
- External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf
- 100mm (min) mineral wool insulation, 10 kg/m³ (min), between ceiling joists
- Seal all perimeter joints with tape or caulk with sealant
8. Services and sockets in the separating wall

8.1 – electrical sockets, switches, etc.
Provide two or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²) to enclose electrical boxes
Stagger sockets, switches, etc. on each side of the wall such that they are not positioned in opposite bays

Alternatively provide a service void on surface of separating wall. This is the preferred method where more than one socket, switch, etc. are close together, e.g. in a kitchen.
Studs or battens used to create the service zone should be securely fixed back to the separating wall structure

8.2 – piped services
Service duct within separating wall
Provide two or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²) to enclose pipes
Stagger services on each side of wall such that they are not positioned in opposite bays
Note: this detail is not applicable for SVPs or gas pipes.
Separating Wall – Timber Frame

See overleaf for checklist
CHECKLIST (to be completed by site manager/supervisor)

Company: ________________________________

Site: ________________________________

Plot: ____________________

Site manager/supervisor: ____________________

<table>
<thead>
<tr>
<th>Ref.</th>
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<tbody>
<tr>
<td>1.</td>
<td>Are ElecoFrame panels being used?</td>
<td></td>
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<tr>
<td>2.</td>
<td>Are wall linings at least 240mm apart?</td>
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<tr>
<td>3.</td>
<td>Is absorbent material at least 60mm thick in both leaves of the separating wall?</td>
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<td>4.</td>
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<td>Is inner leaf lined with 45mm (min) foil faced PIR insulation, minimum density 32 kg/m³?</td>
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Contact details for technical assistance from Eleco Timber Frame Ltd, manufacturer of ElecoFrame prefabricated panels:

Telephone: 0151 448 0055  Fax: 0151 448 0066  E-mail: elecoframe@eleco.com

Notes (include details of any corrective action)

Site manager/supervisor signature ......................................................
**Separating Wall – Timber Frame**

**With sheathing board**
- Twin timber frames
- Excel Industries Warmcel 500 insulation

**Wall width**
240mm (min) between inner faces of wall linings. 60mm (min) gap between wall panels.

**Wall lining**
- 2 or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²), both sides - all joints staggered.

**Sheathing**
9mm (min) thick board.

**Absorbent material**
89mm (min) Warmcel 500 insulation (blown or injected by Excel Industries-approved installer) fully filling stud voids.

**Ties**
Ties between frames not more than 40mm x 3mm, at 1200mm (min) centres horizontally, one row of ties per storey height vertically.

**External (flanking) wall**
Outer leaf masonry with minimum 50mm cavity.

---

**Note:** Structural framing details may vary slightly between different manufacturers and this is permitted, however, all dimension specifications within this RD must be adhered to.

---

**DO**
- Keep wall linings at least 240mm apart.
- Ensure that the 60mm (min) gap between the wall panels is maintained.
- Ensure Warmcel 500 is installed behind the whole lining area, without slumping.
- Ensure stud voids are fully filled.
- Make sure there is no connection between the two leaves except where ties are necessary for structural reasons (see above).
- Stagger joints in wall linings to avoid air paths.
- Seal all joints in outer layer with tape or caulk with sealant.
- Refer to Appendix A.
1. External (flanking) wall junction

Masonry outer leaf (min 100mm thick)
External wall cavity (min 50mm)
Sheathing board
Inner leaf where there is no separating floor, e.g. for houses
- one layer of gypsum-based board nominal 8 kg/m²
Inner leaf where there is a separating floor, e.g. for flats/apartments
- if using robust detail™ for floor, refer to Table 3b in introduction to select an acceptable robust detail™ separating floor and use two layers of gypsum-based board nominal 8kg/m² each layer
- if using floor requiring pre-completion testing, seek specialist advice
Close cavity with a cavity stop (see Appendix A)
Seal all perimeter joints with tape or caulk with sealant
Full fill with Warmcel 500

2. Staggered external (flanking) wall junction

Masonry outer leaf (min 100mm thick)
External wall cavity (min 50mm)
Inner leaf where there is no separating floor, e.g. for houses
- one layer of gypsum-based board nominal 8 kg/m²
Inner leaf where there is a separating floor, e.g. for flats/apartments
- if using robust detail™ for floor, refer to Table 3b in introduction to select an acceptable robust detail™ separating floor and use two layers of gypsum-based board nominal 8kg/m² each layer
- if using floor requiring pre-completion testing, seek specialist advice
Seal all perimeter joints with tape or caulk with sealant
Close cavity with a cavity stop (see Appendix A)
Full fill with Warmcel 500
3. Internal floor junction

- Floor decking may run under sole plates
- Internal floor
- Floor joists may span in either direction
- Internal floors should not be continuous between dwellings
- Close spaces between floor joists with full depth timber blocking where joists are at right angles to wall
- Seal all perimeter joints with tape or caulk with sealant

Section

60mm (min)

4. Separating floor junction

- 5mm (min) resilient flanking strip
- Floor decking may run under sole plates
- Floor joists may span in either direction
- Close spaces between floor joists with full depth timber blocking or continuous header joist where joists are at right angles to wall
- Separating floor:
  - if using robust detail™ for floor, refer to Table 3b in introduction and see robust detail™ for separating floor for floating floor and ceiling options
  - if using floor requiring pre-completion testing, seek specialist advice
- Seal all perimeter joints with tape or caulk with sealant
- Close cavity with a cavity stop (see Appendix A)

Sketch shows E-FT-1™ type separating floor

Alternative detail

Rip liner
5. Internal wall junction

Diagram 5.1

Seal all perimeter joints with tape or caulk with sealant

Internal partition wall

Diagram 5.1 shows junction detail where the internal wall is fixed through the separating wall lining; other junction details are acceptable provided all joints are sealed with tape or caulked with sealant

Diagram 5.2 shows junction where the separating wall lining is continuous

6. Ground floor junction: timber floor, beam and block, precast concrete plank, cast in-situ concrete suspended slab or ground bearing slab

Ground floors not continuous between dwellings

Flexible or acoustic sealant (may be omitted when timber ground floor is used)

Ground floor construction:
- timber floor joists:
  - may span in either direction
  - floor decking may run under sole plates
  - close spaces between floor joists with full depth timber blocking where joists are at right angles to wall, or

- beam and block floor with all voids filled with mortar, or

- precast concrete planks with all voids between planks and blockwork filled with mortar or flexible sealant, or

- cast in-situ concrete suspended slab, or

- ground bearing slab

*Note – Ensure substructure masonry is correctly set out to enable timber frame to achieve the required gap between wall panels
7. Raft foundation

- 5mm (min) resilient flanking strip
- Flexible or acoustic sealant
- A floating floor treatment must be used (for ground floor floating floor treatments mineral fibre quilt is not required between the battens or cradle system)
- Concrete raft - mass per unit area of 365 kg/m² (min)

8. Roof junction - pitched roof with no room-in-roof

- Junction between separating wall and roof filled with flexible closer
- Cavity separating wall continuous to underside of roof
- Wall lining above ceiling – 2 or more layers of gypsum-based board (minimum total nominal mass per unit area 16 kg/m²), both sides, all joints staggered
- Absorbent material not required in separating wall above ceiling
- External wall cavity closed at eaves level with a suitable flexible material (e.g. mineral wool). If a rigid material is used, then it should only be bonded to one leaf
- 100mm (min) mineral wool insulation, 10 kg/m³ (min), between ceiling joists
- Seal all perimeter joints with tape or caulk with sealant
9. Services and sockets in the separating wall

9.1 – electrical sockets, switches, etc.
Provide two or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²) to enclose electrical boxes
Stagger sockets, switches, etc. on each side of the wall such that they are not positioned in opposite bays

Alternatively provide a service void on surface of separating wall. This is the preferred method where more than one socket, switch, etc. are close together, e.g. in a kitchen.
Studs or battens used to create the service zone should be securely fixed back to the separating wall structure

9.2 – piped services
Service duct within separating wall
Provide two or more layers of gypsum-based board (total nominal mass per unit area 22 kg/m²) to enclose pipes
Stagger services on each side of wall such that they are not positioned in opposite bays
Note: this detail is not applicable for SVPs or gas pipes.
# Seperating Wall – Timber Frame

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<td>Is absorbent material at least 89mm thick?</td>
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<td>4.</td>
<td>Are stud voids fully filled with Warmcel 500 except above ceiling line in roof void zone?</td>
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**Notes** (include details of any corrective action)

Contact details for technical assistance from Excel Industries, providers of Warmcel 500:

**Telephone:** 01685 845 200  
**Fax:** 01685 844 106  
**E-mail:** sales@excelfibre.com

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Warning: the doing of an unauthorised act in relation to a copyright work may result in both a civil claim for damages and criminal prosecution.
Separating Floor – Timber I-Joists

V-FT-1™

Timber I-Joists
Use with timber frame walls only

Floating floor
See page 5 for suitable floating floor treatment

Floor decking
15mm thick (min) wood based board, density 600 kg/m³ (min)

Joists
240mm (min) timber I-Joists

Absorbent material
100mm (min) mineral wool quilt insulation (10–36 kg/m³) between joists

Ceiling
See page 4 for suitable ceiling treatment

**Floating Floor**

22mm t&g chipboard

19mm gypsum board

80mm

50mm (min) quilt

FFT80™ resilient batten*

* FFT80™ resilient batten must comply with laboratory performance requirements detailed on page 5

**DO**

- Lay quilt (min 100mm thick) between all joists, including doubled up I-joists, ensuring no gaps remain
- Ensure floating floor treatment is suitable and is installed in accordance with the manufacturer’s instructions
- Ensure quilt is laid between and not under flooring battens
- Install flanking strips around the perimeter of the flooring board to isolate floor from walls and skirtings
- Ensure resilient ceiling bars are fixed at right angles to the joists
- Ensure timber floor ceiling treatment is CT1™ and is fixed correctly (see page 4)
- Stagger joints in ceiling layers
- Refer to Appendix A

Note: Structural framing details may vary slightly between different manufacturers and this is permitted, however, all dimension specifications within this Robust Detail™ must be adhered to.
Separating Floor – Timber I-Joists

1. External (flanking) wall junction

- Masonry outer leaf (min 100mm)
- External wall cavity (min 50mm)
- Mineral wool insulation 10 kg/m³ (min)
- Two layers gypsum-based board nominal 8 kg/m² each layer
- 5mm (min) resilient flanking strip
- Close cavity with a cavity stop (see Appendix A)
- Joists may span in either direction
- Close spaces between floor joists with full depth timber blocking or continuous header joist where joists are at right angles to the wall
- Seal all perimeter joints with tape or caulk with sealant

2. Separating wall junction

If using robust detail™ for wall - refer to Table 3b in introduction to select an appropriate robust detail™ separating wall

- If using wall requiring pre-completion testing - seek specialist advice
- Two layers gypsum-based board total nominal mass per unit area 22 kg/m² both sides
- 5mm (min) resilient flanking strip
- Close spaces between floor joists with full depth timber blocking or continuous header joist where joists are at right angles to the wall
- Joists may span in either direction
- Close cavity with a cavity stop (see Appendix A)
- Seal all perimeter joints with tape or caulk with sealant
3. Internal wall junction (non loadbearing)

- Resilient bar nogging (must not touch other resilient bars)
- Headplate fixed to resilient bar nogging
- Seal all perimeter joints with tape or caulk with sealant
- Where required, internal wall to comply with Building Standards Section 5.2

4. Internal wall junction (loadbearing)

- Partition frame must not touch resilient bars
- Seal all perimeter joints with tape or caulk with sealant
- Where required internal wall to comply with Building Standards Section 5.2
- 5mm (min) resilient flanking strip

Alternative detail

Rip liner

80mm (min) - see page 5
5. Ceiling treatment for V-FT-1™

Timber floor ceiling treatment must be CT1™, (see below). All joints to outer layers of ceiling must be sealed with tape or caulked with sealant.

The maximum load on resilient bars should not exceed that specified in the manufacturer’s instructions.

Ensure ceiling layers have staggered joints.

Services must not puncture ceiling linings (except cables, which should be sealed around with flexible sealant).

### Downlighters and recessed lighting

Downlighters or recessed lighting may be installed in the ceiling:

- in accordance with the manufacturer’s instructions
- at no more than one light per 2m² of ceiling area
- in each room unless the use of a greater density of light fittings is supported by testing undertaken in accordance with Appendix F
- at centres not less than 0.75m
- into openings not exceeding 100mm diameter or 100x100mm

Particular attention should also be paid to Building Standards Section 2: Fire

**Note:** Only downlighters which have been satisfactorily assessed in accordance with the procedure described in Appendix F “Determination of the acoustic performance of downlighters and recessed lighting in timber separating floors” are acceptable.

### CEILING BOARD FIXINGS MUST NOT PENETRATE OR TOUCH JOISTS

16mm (min) resilient bars with CT1™

16mm (min) metal resilient ceiling bars mounted at right angles to the joists at 400mm centres (bars must achieve a minimum laboratory performance of \(r_d \Delta R_p + C_w = 17\, \text{dB}, \, r_d \Delta R_w = 18\, \text{dB} \) and \(r_d \Delta L_w = 16\, \text{dB}\) – see Appendix E

**Ceiling treatment CT1™**

Two layers of gypsum-based board, composed of 19mm (nominal 13.5 kg/m²) fixed with 32mm screws, and 12.5mm (nominal 10 kg/m²) fixed with 42 mm screws
6. Floating floor treatment for V-FT-1™

Floating floor treatment:

a) Must achieve a minimum laboratory performance of $r_d \Delta R_w + C_t = 13\,\text{dB}$, $r_d \Delta L_w = 17\,\text{dB}$ and $r_d \Delta L_w = 16\,\text{dB}$ - see Appendix C.

b) Must be installed in accordance with the manufacturer’s instructions.

c) Require 5mm (min) resilient flanking strips around the perimeter of the flooring board to isolate floor from walls and skirting.

d) For further guidance on floating floor treatments and flanking strips, please refer to Appendix A.

* Note - 80mm void dimension indicated is when floor is loaded to 25 kg/m².

FFT80™ – Resilient composite deep batten system for V-FT-1™

- 22mm (min) t&g flooring board - 600 kg/m² (min)
- gypsum-based board nominal 13.5 kg/m²
- FFT80™ resilient composite deep battens
- resilient layer must be continuous and pre-bonded to batten
- battens may have the resilient layer at the top or the bottom
- mineral wool quilt laid between battens – 50mm (min) 10-36 kg/m³
- ensure any services do not bridge the resilient layer

7. Services – pipes through separating floor

- 25mm (min) mineral wool quilt (10-36 kg/m³) around pipe
- Pipe boxed in with two layers of gypsum-based board combined nominal 16 kg/m²
- 5mm (min) resilient flanking strip
- All voids around pipe sealed
- Penetration through separating floor must comply with Building Standards Section 2: Fire
- 5mm (min) polyethylene foam flanking strip

Section

Alternative detail
**Separating Floor – Timber I-Joists**

**CHECKLIST** (to be completed by site manager/supervisor)

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item</th>
<th>Yes</th>
<th>No</th>
<th>Inspected (initials &amp; date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Are timber I-Joists at least 240mm deep?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Are resilient ceiling bars fitted at right angles to the joists?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Has quilt (min 100mm thick) been fitted between the joists?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Has floating floor treatment FFT80™ been fitted in accordance with the manufacturer's instructions?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5.</td>
<td>Has quilt been fitted between the floor battens?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6.</td>
<td>Has the ceiling system been fitted in accordance with the manufacturer's instructions?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Is the ceiling treatment CT1™, fixed to the resilient bars with correct screws, such that the screws do not touch or penetrate the joists?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Are all joints sealed with tape or caulked with sealant?</td>
<td></td>
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<tr>
<td>9.</td>
<td>Are vertical service pipes wrapped in quilt and boxed in with two layers of gypsum-based board combined nominal mass per unit area of 16 kg/m²?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10.</td>
<td>Have all resilient flanking strips been fitted?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Is separating floor satisfactorily complete?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes** (include details of any corrective action)

Site manager/supervisor signature ..........................
### Separating Floor – Timber Solid Joists

**V-FT-2™**

**Timber Solid Joists**

Use with timber frame walls only.

<table>
<thead>
<tr>
<th><strong>Floating floor</strong></th>
<th>See page 5 for suitable floating floor treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Floor decking</strong></td>
<td>15mm thick (min) wood based board, density 600 kg/m³ (min)</td>
</tr>
<tr>
<td><strong>Joists</strong></td>
<td>240mm (min) solid timber joists at maximum 400mm centres</td>
</tr>
<tr>
<td><strong>Absorbent material</strong></td>
<td>100mm (min) mineral wool quilt insulation (10–36 kg/m³) between joists</td>
</tr>
<tr>
<td><strong>Ceiling</strong></td>
<td>See page 4 for suitable ceiling treatment</td>
</tr>
</tbody>
</table>

**Note:** Structural framing details may vary slightly between different manufacturers and this is permitted, however, all dimension specifications within this RD must be adhered to.

**FLOATING FLOOR**

- 22mm t&g chipboard
- 19mm gypsum board
- 50mm (min) quilt
- FFT80™ resilient batten*

* FFT80™ resilient batten must comply with laboratory performance requirements detailed on page 5

**DO**

- Lay quilt (min 100mm thick) between joists ensuring no gaps remain
- Ensure floating floor treatment is suitable and is installed in accordance with the manufacturer’s instructions
- Ensure sub-deck quilt is laid between and not under flooring battens
- Install flanking strips around the perimeter of the flooring board to isolate floor from walls and skirtings
- Ensure resilient ceiling bars are fixed at right angles to the joists
- Ensure timber floor ceiling treatment is CT1™, and is fixed correctly (see page 4)
- Stagger joints in ceiling layers
- Refer to Appendix A

---

**April 2013 Update**
Separating Floor – Timber Solid Joists

1. External (flanking) wall junction

- Masonry outer leaf (min 100mm)
- External wall cavity (min 50mm)
- Mineral wool insulation 10 kg/m³ (min)
- Two layers gypsum-based board nominal 8 kg/m² each layer
- 5mm (min) resilient flanking strip
- Close cavity with a cavity stop (see Appendix A)
- Joists may span in either direction
- Close spaces between floor joists with full depth timber blocking or continuous header joist where joists are at right angles to the wall
- Seal all perimeter joints with tape or caulk with sealant

2. Separating wall junction

- If using robust detail for wall - refer to Table 3b in introduction to select an appropriate robust detail separating wall
- If using wall requiring pre-completion testing - seek specialist advice
- Two layers gypsum-based board total nominal mass per unit area 22 kg/m² both sides
- 5mm (min) resilient flanking strip
- Close spaces between floor joists with full depth timber blocking or continuous header joist where joists are at right angles to the wall
- Joists may span in either direction
- Close cavity with a cavity stop (see Appendix A)
- Seal all perimeter joints with tape or caulk with sealant
Separating Floor – Timber Solid Joists

3. Internal wall junction (non loadbearing)

- Resilient bar nogging
- Headplate fixed to resilient bar nogging
- Seal all perimeter joints with tape or caulk with sealant
- Where required internal wall to comply with Building Standards Section 5.2

4. Internal wall junction (loadbearing)

- Seal all perimeter joints with tape or caulk with sealant
- Where required internal wall to comply with Building Standards Section 5.2
- 5mm (min) resilient flanking strip

Alternative detail

- Rip liner
- 80mm (min) - see page 5
5. Ceiling treatment for V-FT-2™

Timber floor ceiling treatment must be CT1™ (see below). All joints to outer layers of ceiling must be sealed with tape or caulked with sealant.

The maximum load on resilient bars should not exceed that specified in the manufacturer’s instructions.

Ensure ceiling layers have staggered joints.

Services must not puncture ceiling linings (except cables, which should be sealed around with flexible sealant)

---

Downlighters and recessed lighting

Downlighters or recessed lighting may be installed in the ceiling:

- in accordance with the manufacturer’s instructions
- at no more than one light per 2m² of ceiling area in each room unless the use of a greater density of light fittings is supported by testing undertaken in accordance with Appendix F
- at centres not less than 0.75m
- into openings not exceeding 100mm diameter or 100x100mm

Particular attention should also be paid to Building Standards Section 2: Fire

Note: Only downlighters which have been satisfactorily assessed in accordance with the procedure described in Appendix F “Determination of the acoustic performance of downlighters and recessed lighting in timber separating floors” are acceptable.

---

CEILING BOARD FIXINGS MUST NOT PENETRATE OR TOUCH JOISTS

16mm (min) resilient bars with CT1™

16mm (min) metal resilient ceiling bars mounted at right angles to the joists at 400mm centres (bars must achieve a minimum laboratory performance of \( r_d \Delta R_w + C_v = 17 \text{dB} \), \( r_d \Delta L_w = 18 \text{dB} \) and \( r_d \Delta L_n = 16 \text{dB} \)) – see Appendix E

Ceiling treatment CT1™

Two layers of gypsum-based board, composed of 19mm (nominal 13.5 kg/m²) fixed with 32mm screws, and 12.5mm (nominal 8 kg/m²) fixed with 42 mm screws
6. Floating floor treatment for V-FT-2™

Floating floor treatment:

a) Must achieve a minimum laboratory performance of \( r_d \Delta R_w + C_t = 13 \text{dB}, r_d \Delta L_w = 17 \text{dB} \) and \( r_d \Delta L_w = 16 \text{dB} \) - see Appendix C.

b) Must be installed in accordance with the manufacturer’s instructions.

c) Require 5mm (min) resilient flanking strips around the perimeter of the flooring board to isolate floor from walls and skirting.

d) For further guidance on floating floor treatments and flanking strips, please refer to Appendix A.

* Note - 80mm void dimension indicated is when floor is loaded to 25 kg/m².

FFT80™ – Resilient composite deep batten system for V-FT-2™

- 22 mm (min) t&g flooring board
  - 600 kg/m³ (min)
- gypsum-based board nominal 13.5 kg/m²
- FFT80™ resilient composite deep battens
- resilient layer must be continuous and pre-bonded to batten
- battens may have the resilient layer at the top or the bottom
- 50mm (min) 10-36 kg/m³ mineral wool quilt laid between battens
- ensure any services do not bridge the resilient layer

7. Services – pipes through separating floor

- 25mm (min) mineral wool quilt (10-36 kg/m³) around pipe
- Pipe boxed in with two layers of gypsum-based board combined nominal 16 kg/m²
- 5mm (min) resilient flanking strip
- All voids around pipe sealed
- Penetration through separating floor to comply with Building Standards Section 2: Fire
- 5mm (min) polyethylene foam flanking strip
### Separating Floor – Timber Solid Joists

#### CHECKLIST (to be completed by site manager/supervisor)

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item</th>
<th>Yes</th>
<th>No</th>
<th>Inspected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Are solid timber joists at least 240mm deep installed at no greater than 400mm centres?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Has quilt (min 100mm thick) been fitted between the joists?</td>
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<tr>
<td>3.</td>
<td>Are resilient ceiling bars fitted at right angles to the joists?</td>
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</tr>
<tr>
<td>4.</td>
<td>Has ceiling system been fitted in accordance with the manufacturer’s instructions?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5.</td>
<td>Is floor decking 15mm thick (min)?</td>
<td></td>
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<tr>
<td>6.</td>
<td>Has floating floor treatment FFT80™ been fitted in accordance with the manufacturer’s instructions?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7.</td>
<td>Has 50mm (min) quilt been fitted between the floor battens?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>8.</td>
<td>Is ceiling treatment CT1™ fixed to the resilient bars with correct screws such that the screws do not touch or penetrate the joists?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Are all joints sealed with tape or caulked with sealant?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Are vertical service pipes wrapped in quilt and boxed in with two layers of gypsum-based board combined nominal mass per unit area of 16 kg/m²?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Have all resilient flanking strips been fitted?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Is separating floor satisfactorily complete?</td>
<td></td>
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</tr>
</tbody>
</table>

#### Notes (include details of any corrective action)

Site manager/supervisor signature .................................
Separating Floor – Steel-concrete composite

In-situ concrete slab supported by profiled metal deck

Use with steel frame construction only

Floating Floor

See page 4 for suitable floating floor treatment

Structural floor

In-situ concrete slab supported by profiled metal decking:
- “shallow” or “deep” profiled metal decking
- overall distance from top surface of concrete to underside of ceiling treatment 300mm (min)
- concrete thickness
  - 80mm (min) at shallowest point, and
  - 130mm (min) at deepest point
- concrete density 2200 kg/m³ (min)

Ceiling

See page 3 for suitable ceiling treatment

DO

- Ensure floor slab density is 2200kg/m³ (min)
- Fill all voids between walls and floor
- Ensure that where floor profiles are at a right angle to walls the voids are filled with profiled mineral wool inserts and caulked with acoustic or flexible sealant
- Ensure minimum concrete thickness - 80mm at shallowest point and 130mm at deepest point
- Ensure floating floor treatment is suitable and install in accordance with the manufacturer’s instructions
- Install flanking strips around the perimeter of the flooring board to isolate floor from walls and skirtings
- Ensure that the overall distance from top surface of concrete to underside of ceiling treatment is at least 300mm
- Ensure ceiling board is not in direct contact with any steel beams/columns
- Refer to Appendix A

Alternative external (flanking) wall construction

Storey height glazing units are an acceptable alternative to the external walls illustrated:
- glazing units should not be continuous between storeys
- mullion or transom supports/framing should not be continuous between dwellings
- refer to Appendix A

All sketches show “shallow” trapezoidal profiled metal decking. “Deep” trapezoidal and “shallow” or “deep” re-entrant profiled metal decking are also acceptable.
Separating Floor – Steel-concrete composite

1. External (flanking) wall junction - steel or timber frame inner leaf

- Outer leaf may be:
  - masonry, or
  - precast panels
- External wall cavity (min 50mm)
- 5mm (min) resilient flanking strip
- 2 layers (min) gypsum-based board nominal 8 kg/m² each layer
- Inner leaf must not be continuous between storeys
- Deck/slab must not abut inner leaf
- Close cavity with a flexible cavity stop
- All voids between slab and inner leaf filled with flexible closer or sealant
- Mineral wool insulation 10 kg/m³ (min)

Where floor profiles are at a right angle to walls, voids to be filled with profiled mineral wool inserts and caulked with acoustic or flexible sealant

Note: for “deep” decking, the beam will be cast within the slab.

Particular attention should also be paid to Building (Scotland) Regulations Section 2 - Fire.

Sketch shows FFT™ type floating floor treatment

2. External (flanking) wall junction - masonry inner leaf

- Outer leaf may be masonry or precast panels
- External wall cavity (min 50mm)
- Inner leaf (min 100mm) concrete block (1350 to 1600 kg/m³ or 1850 to 2300 kg/m³)
- 5mm resilient flanking strip
- Continuous ribbon of adhesive
- Gypsum-based board nominal 8 kg/m² or 13mm plaster
- Inner leaf must not be continuous between storeys
- Deck/slab must not abut inner leaf
- Mineral wool insulation 10 kg/m³ (min)
- Close cavity with a flexible cavity stop unless it is fully filled with mineral wool insulation or expanded polystyrene beads
- All voids between slab and inner leaf filled with flexible closer or sealant
- Continuous horizontal ribbon of adhesive

Where floor profiles are at a right angle to walls, voids to be filled with profiled mineral wool inserts and caulked with acoustic or flexible sealant

Note: for “deep” decking, the beam will be cast within the slab.

Particular attention should also be paid to Building (Scotland) Regulations Section 2 - Fire.

Sketch shows FFT™ type floating floor treatment
3. Ceiling treatment for V-FS-1™

Ceiling treatment must be installed in accordance with the manufacturer’s instructions.
All ceiling joints must be sealed with tape or caulked with sealant.
The maximum load on resilient bars shall not exceed that specified in the manufacturer’s instructions.

Note: the sound insulation performance of ceiling treatment is increased if:
• 25mm (min) mineral wool quilt is placed in the ceiling void, and/or
• resilient hangers are used

Downlighters and recessed lighting

Provided there is a minimum ceiling void of 75mm downlighters or recessed lighting may be installed in the ceiling:
• in accordance with the manufacturer’s instructions
• at no more than one light per 2m² of ceiling area in each room or see Appendix F
• at centres not less than 0.75m
• into openings not exceeding 100mm diameter or 100x100mm

Particular attention should also be paid to Building (Scotland) Regulations Section 2 - Fire.

Any ceiling system
• one layer of nominal 8 kg/m² gypsum-based board
4. Floating floor treatments for V-FS-1™

All floating floor treatments:

a) Must achieve a minimum laboratory performance of \( \Delta L_w = 17 \text{dB} \) - see Appendix D.

b) Must be installed in accordance with the manufacturer's instructions.

c) Require 5mm (min) resilient flanking strips around the perimeter of the flooring board to isolate floor from walls and skirting.

d) For further guidance on floating floor treatments and flanking strips please refer to Appendix A.

* Note - void dimensions indicated are when floor is loaded to 25 kg/m².

FFT 1™ – Resilient composite deep batten system
- 18mm (min) t&g flooring board
- resilient layer must be continuous and pre-bonded to batten
- resilient composite deep battens
- ensure any services do not bridge the resilient layer
- battens may have the resilient layer at the top or the bottom

FFT 2™ – Resilient cradle and batten system
- 18mm (min) t&g flooring board
- cradle and batten
- ensure any services do not bridge the resilient layer

FFT 3™ – Resilient composite standard batten system
- 18mm (min) t&g flooring board
- resilient layer must be continuous and pre-bonded to batten
- resilient composite standard battens
- ensure any services do not bridge the resilient layer
- battens may have the resilient layer at the top or the bottom

FFT 4™ – Resilient overlay platform floor system
- proprietary platform system inclusive of resilient layer greater than or equal to 16 kg/m² mass per unit area
- no services to be installed in floor system

FFT 5™ – Resilient overlay shallow platform floor system
- 9mm (min) t & g flooring board
- resilient layer pre-bonded to flooring board
- no services to be installed in floor system
5. Services – Service pipes through separating floor

- 25mm (min) mineral wool quilt (min 10 kg/m²) around pipe
- Pipe boxed in with two layers gypsum-based board, each layer nominal 8 kg/m²
- All voids around pipe sealed

Sketch shows FFT1™ type floating floor treatment and metal ceiling treatment.
**CHECKLIST** (to be completed by site manager/supervisor)

Company: 

Site: 

Plot: Site manager/supervisor: 

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item</th>
<th>Yes</th>
<th>No</th>
<th>Inspected (initials &amp; date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Is concrete density 2200 kg/m³ (min)?</td>
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<tr>
<td>2.</td>
<td>Is concrete at least 80mm thick at shallowest point and 130mm thick at deepest point?</td>
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<tr>
<td>3.</td>
<td>Is inner leaf discontinuous between storeys?</td>
<td></td>
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<tr>
<td>4.</td>
<td>Has ceiling system been installed in accordance with the manufacturer's instructions (where applicable)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Is overall distance from top surface of concrete to underside of ceiling treatment at least 300mm?</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6.</td>
<td>Are all ceiling board joints sealed with tape or caulked with sealant?</td>
<td></td>
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<tr>
<td>7.</td>
<td>Has floating floor treatment been installed in accordance with the manufacturer's instructions?</td>
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<tr>
<td>8.</td>
<td>Have all resilient flanking strips been fitted?</td>
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<td></td>
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</tr>
<tr>
<td>9.</td>
<td>Are vertical service pipes wrapped in quilt and boxed in with two layers of gypsum-based board, nominal 8 kg/m² each layer?</td>
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<tr>
<td>10.</td>
<td>Is separating floor satisfactorily complete?</td>
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</tbody>
</table>

**Notes** (include details of any corrective action)

Site manager/supervisor signature: ............................................

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## Appendix A1 – Additional Guidance

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<td>Underfloor heating systems in separating floors</td>
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<td>Floating floor treatments in kitchens and bathrooms</td>
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<td>Laminated or ceramic flooring on separating floors</td>
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### Wall ties in cavity masonry separating walls

Only “type A” wall ties are suitable for use with masonry cavity separating wall robust details.

**Tie type A**

Connect the leaves of a masonry cavity wall only where necessary by butterfly ties as described in BS 1243: 1978 Metal ties for cavity wall construction, and spaced as required for structural purposes (BS 5628-3: 2001 Code of practice for use of masonry. Materials and components, design and workmanship, which limits this tie type and spacing to cavity widths of 50mm to 75mm with a minimum masonry leaf thickness of 90mm). Alternatively, use wall ties with an appropriate measured dynamic stiffness for the cavity width. The specification for wall ties of dynamic stiffness, $k_{X \text{mm}}$ in MN/m with a cavity width of $X$ mm and $n$ ties/m² is $n.k_{X \text{mm}} < 4.8$ MN/m³.

When using wall ties for masonry separating walls the specifier should ensure that the wall tie manufacturer has a test report that demonstrates compliance with the required ADE criteria.

### Wall ties in cavity masonry external walls

Type A or Type B ties may be used in external masonry walls. However, consideration needs to be given to other regulations and standards.

**Tie type B**

Connect the leaves of a masonry cavity wall only where necessary by double-triangle ties as described in BS 1243: 1978 Metal ties for cavity wall construction, and spaced as required for structural purposes (BS 5628-3: 2001 Code of practice for use of masonry. Materials and components, design and workmanship, which limits this tie type and spacing to cavity widths of 50mm to 75mm with a minimum masonry leaf thickness of 90mm). Alternatively, use wall ties with an appropriate measured dynamic stiffness for the cavity width. The specification for wall ties of dynamic stiffness, $k_{X \text{mm}}$ in MN/m with a cavity width of $X$ mm and $n$ ties/m² is $n.k_{X \text{mm}} < 113$ MN/m³.
Appendix A1 – Additional Guidance

Cavity stops
The flexible cavity stops at the junction of the separating wall and the external (flanking) wall are shown in the robust details as a single piece of material (diagram a). It is acceptable for these to be provided as two separate pieces (diagram b), or three separate pieces (diagram c).

Diagram a
Diagram b
Diagram c

The following types of cavity stop may be used:
• single mineral wool batt cavity stops
• dual rigid cavity stops on either side of the external wall cavity
• single rigid cavity stop attached to one leaf of the separating wall only
• flexible single cavity stop such as the mineral wool “tubular style”
• flexible double cavity stops such as the mineral wool “tubular style” where one is fitted in line with each leaf of the separating wall.

Single rigid cavity stops which structurally couple both leaves of the separating wall are not permitted.

Cavity trays
The cavity trays shown above the cavity stops are included for illustrative purposes only and not for acoustic reasons.

Movement joints in cavity masonry separating walls

Separating walls with a gypsum-based board finish
Where possible, movement joints should be avoided in separating walls with a gypsum-based board finish. Where they are essential, they should be formed as follows:

Diagram e

Dense flexible board, (max 20mm wide) bitumen impregnated, minimum mass per unit area 4 kg/m²

De-bonded flat metal ties at 450mm centres

Minimum 1.0m

20mm (min) deep flexible polysulphide sealant

Where possible, movement joints should be located in bathrooms or other minor rooms or behind cupboards, etc.

Separating walls with a wet plaster finish
Movement joints are not acceptable in robust detail™ separating walls with a wet plaster finish unless they are strategically placed behind internal wall junctions or service pipe casings.

Diagram f

The movement joints must also be staggered and spaced not less than 1m apart, as shown in Diagram d above.
**Appendix A1 – Additional Guidance**

**Bed joint reinforcement**

It is acceptable to install masonry reinforcement within the horizontal bed joints of the cavity masonry separating provided:

- the masonry reinforcement is contained wholly within the mortar bed joint of each individual leaf of masonry
- the masonry reinforcement does not connect the two leaves of the cavity walls together or bridge the cavity in any way

**Internal floor joists/floor beams and masonry separating walls**

Internal floor joists at right angles to the separating wall may be supported by metal joist hangers or be built into the wall.

The acoustic performance of separating walls is adversely affected by any gaps in the masonry as these provide a direct sound transmission path.

**It is essential that joists and beams are built in only if a high standard of workmanship can be guaranteed.**

**Solid timber joists**

Solid timber joists may be built into the separating wall, provided that:

- the mortar joints around each joist perimeter are recessed or struck, and
- the joint between the masonry and the timber is carefully pointed with silicone sealant.

Instructions.

In circumstances where the joist end cap is larger than the depth of the joist, such that there is a gap between the top of the joist and the joist end cap, this should be filled with mineral wool or other suitable material such that the acoustic performance of the wall is maintained.

**Metal web joists**

Metal web joists may be built into the separating wall following the guidance for solid timber joists above. Metal web joists must have solid ends.

**Timber I-Joists**

Timber I-joists may be built into the separating wall, provided that:

- proprietary filler pieces are fitted on both sides of the web between the top and bottom flanges. These filler pieces must not damage the joist flanges - their depth should be slightly less than the dimension between the joist flanges to achieve a “loose fit”.
- the mortar joints around each joist perimeter are recessed or struck, and
- the joint between the masonry and the timber and any other air paths are carefully pointed with silicone sealant.

Alternatively, proprietary joist caps/ends designed to satisfy air leakage requirements may be used. They should be installed in accordance with the manufacturer’s instructions. In circumstances where the joist end cap is larger than the depth of the joist, such that there is a gap between the top of the joist and the joist end cap, this should be filled with mineral wool or other suitable material such that the acoustic performance of the wall is maintained.
Appendix A1 – Additional Guidance

**Steel beams**
Steel beams may be built into the separating wall, provided that all voids around the beam ends are filled with mortar or flexible sealant.

Separating walls should not be constructed off steel beams.

**Structural steelwork in masonry separating walls**
Steel columns built into masonry separating walls are not permitted.
Separating walls should not be constructed off steel beams.

**Concrete beam and block ground and internal floors**
Concrete beam and block floors may be built into the separating wall, provided:
- all voids are carefully filled with mortar
- the floor does not bridge the cavity leaves.

**Flues in separating walls**
Flue blocks may not be built into the separating wall where the finish is wet plaster. Flue blocks may only be built into the normal width of a separating wall where a diagram is included in the robust detail™.

Any of the Robust Details™ masonry separating walls with gypsum-based board on dabs finish, may use the following alternative detail:

**Internal render**
Some of the robust details™ for masonry separating walls indicate the use of an internal render (parge) coat prior to the application of dry lining. Where a cement:sand render coat is used it should not be float or skim finished but preferably applied in an uneven manner with a trowel (or equivalent) and scratch finished.

Internal render may be omitted from the following locations:
- wall surfaces not facing into a room
- floor joist/beam zone
- roof space (where there are no rooms in the roof)
- staircases may be installed prior to the application of render, and the render and gypsum-based board are not required behind the stair string.

Mixes quoted are for cement, lime and sand by volume based on damp sand. Mixes made with cement, sand and plasticiser are also acceptable.

**Coursing in blockwork separating walls**
For the purposes of adjusting coursing it is permissible to use smaller units of robust detail™ separating wall material (e.g. brick sized), provided the density of the smaller units is at least the same as the separating wall material.
Appendix A1 – Additional Guidance

Spandrel panels
Where stated in the robust detail™, spandrel panels are an acceptable alternative to building the cavity separating wall in the roof space (without room-in-roof).

When adopting spandrel panels particular attention should be paid to Building (Scotland) Regulations Section 2 - Fire. The dimensions given below are the minimum required to maintain only the acoustic integrity.

The supporting blockwork should extend at least 300mm above the finished ceiling layer. The top of the cavity wall should be closed with a cavity stop. The junction between the spandrel panel and supporting blockwork should be sealed with flexible or acoustic sealant. The spandrel panel may be mounted on a mineral fibre panel.

The spandrel panel should consist of:
2 layers of gypsum-based board lining each side of a minimum 35x45mm timber frame, each layer to be a nominal 8 kg/m². Alternatively, framing can be formed from lightweight steel instead of timber.

Two panels may be adopted provided they are constructed with a minimum 50mm cavity maintained between wall panels, or stud should board be omitted from the inner faces of the spandrel panels.

Wall cavities must be maintained within roof voids. Linking of wall leaves by spandrel panels is not permitted.

Services and chases in separating walls
Where possible, services should not be built into the separating wall.

However, where chasing is permitted in the Detail, they should be kept to a minimum. Chases must not be located back to back. Care must be taken to ensure all voids are fully filled with mortar. Where conduits or cappings are used they should not be in contact with the gypsum-based board.

The robust details™ for timber and steel framed walls show how services should be built in.

Room-in-roof for masonry walls – requirements for gypsum-based boards
Room-in-roof constructions are permitted in masonry separating walls. Where the ceiling to the room is directly beneath the roof structure, typically the sloping areas, two layers of gypsum-based board are required, as per the relevant room-in-roof detail for the adopted separating wall. A single layer of gypsum-based board may be adopted in other areas.

Gypsum-based board
Gypsum-based boards may be either plaster gypsum-based or cement gypsum-based.

The mass per unit area or surface density specified is a nominal minimum value in kilograms per square metre (kg/m²): the use of a higher density board will increase the sound insulation performance.

Boards should be abutted and all joints sealed with tape or caulked with sealant. Where two or more layers of gypsum-based board are required on separating walls or ceilings all joints should be staggered, and only the outer layer boards need to be sealed with tape or caulked with sealant. The order in which boards are fitted and lapped is not critical provided the overall mass per unit area is maintained. The same applies to combined render/plaster finishes.

Boards fitted to steel and timber frame separating walls should be mounted in accordance with the manufacturer’s instructions – some boards may need to be mounted horizontally.

Thermal laminate boards may be used as the wall finish to masonry walls, provided the nominal mass per unit area indicated in the robust detail™ is maintained - seek advice from the manufacturer.

An acceptable alternative to caulking or sealing the joint between the wall and the ceiling is to use gypsum coving.
Appendix A1 – Additional Guidance

Cavity masonry separating walls – staggered external (flanking) wall junction

As an alternative to the junction shown in the robust detail, it is acceptable for the inner leaf blockwork to extend to the inner face of the external wall cavity, as shown below.

Building (Scotland) Regulations Section 1 - Structure: disproportionate collapse

Masonry construction

Lateral restraint straps may be used at floor junctions, roof level and other junctions, if necessary to meet the requirements of Section 1, provided they do not bridge the cavity separating wall leaves and that no voids remain at the mortar joints.

Internal walls (minimum mass requirements)

Junctions with cavity masonry separating walls

- masonry internal walls where there is no separating floor (e.g. houses) – no restrictions
- masonry internal walls where there is a separating floor (e.g. flats/apartments) – internal wall should have a minimum mass per unit area of 120 kg/m² (including the finish) OR at least that of the approved flanking wall inner leaf, if this is less.
- timber frame and steel frame internal walls – no restrictions.

Junctions with timber and steel frame separating walls

No minimum mass requirements.

Junctions with concrete or steel-concrete composite separating floors

- masonry internal walls – internal wall should have a minimum mass per unit area of 120 kg/m² (including the finish) OR at least that of the approved flanking wall inner leaf, if this is less.
- timber frame and steel frame internal walls – no restrictions.

Junctions with timber or light steel separating floors

No minimum mass requirements.

Junctions between internal partition walls and concrete separating floors

The junction between internal partition walls and concrete separating floors should be formed as follows:

1. Install internal lightweight stud partitions either up to the ceiling lining or through the ceiling lining, provided the head channel of metal stud partitions or timber frame, as appropriate, fully seals the void between the wall linings, such that there are no air paths from the ceiling void to the partition void.

2. Install loadbearing masonry internal partition walls up to the underside of the floor, provided the floor is continuous over the wall and the wall has a minimum mass per unit area of 120 kg/m² (including the finish) OR at least that of the approved flanking wall inner leaf, if this is less.

Roof junctions – thermal insulation

Additional layers of thermal insulation may be added as follows:

100mm (min) mineral wool insulation minimum density 10 kg/m³ or 60mm (min) foil faced PUR or PIR insulation, minimum density 30 kg/m³
Appendix A1 – Additional Guidance

3. Construct the internal wall directly off core floor with the floating floor treatment (FFT) or screed installed around the internal walls, provided:
   • the 5mm (min) resilient flanking strip or isolating edge strip, as appropriate for the robust detail™ adopted, is correctly installed to all perimeters of the FFT or screed to isolate the floor from all the walls and skirtings

4. Construct the internal wall off the floating floor treatment flooring board or screed, provided:
   • the floating floor treatment is installed in accordance with the manufacturer’s instructions, including the provision of additional battens to support the internal walls if necessary

Subfloor ventilation
Where possible it would be preferable to avoid providing ventilation for the sub floor void through the separating walls. However, where necessary, the ventilation of the sub floor void of Section 5 Robust Detail™ separating walls may be achieved through the installation of ducts through the separating wall, provided:
   • the top of the duct is at least 300mm below the finished floor surface of the ground floor structure
   • the number of ducts passing through the separating wall is kept to the minimum necessary.

Radon and methane barriers
It is acceptable to install a radon or methane barrier and comply with the robust details™. The ground floor junction detail would need to follow that described in the robust detail™ and as such the 225mm (min) clear cavity indicated in the ground floor junction to masonry separating walls would need to be maintained. Alternatively, refer to Appendix A2.

Ground floor junctions
5mm (min) flanking strips are recommended to isolate floating floor finishes, where provided, from walls and skirtings.

Screed thickness
The screed thickness stated is the minimum thickness at any point and a greater thickness should be specified to take account of deviations in the finished levels of the surfaces of bases and any reinforcement provided.
Cement:sand screed should be at least 50mm to comply with BS 8204. Concrete screed is acceptable.

Precast concrete plank separating floors with steel beams
In some situations precast concrete planks may require intermediate support by steel beams supported on masonry.
   • cavity masonry separating walls must not be built off steel beams – where necessary, external cavity walls may be built off steel beams
   • all voids between the steel beam and the slabs should be fully filled with grout or concrete, and
   • the supports for the ceiling treatment and the ceiling lining should not come into contact with the steel beam, and
   • the depth of the ceiling void from the underside of the plank should be as shown in the following diagrams and in accordance with the corresponding separating floor robust detail™
   • mineral wool quilt should be provided if shown in the following diagrams
Appendix A1 – Additional Guidance

Services in separating floors

**Downlighters or recessed lighting**
Where possible, downlighters or recessed lighting should not be built into the separating floor. If they must be built in, they should be kept to a minimum and the guidance included in the robust detail™ followed. For timber separating floors, see Appendix F also.

Particular attention should also be paid to Building (Scotland) Regulations Section 2 - Fire. Secondary ceilings to timber floors may also be supported by perimeter channels.

**Other services**
Electrical and plumbing services may be installed in the separating floor. All penetrations through the ceiling lining, floor decking and flooring board should be cut carefully. The gap around the service should be carefully sealed with flexible sealant.

Where services are installed within a floating floor treatment, the manufacturer’s instructions should be followed. It is acceptable to leave a gap of up to 50mm in the batten to allow services to cross at right angles.

Ducts for extract ventilation, etc. may run within the separating floor, provided the acoustic integrity is maintained.

Ducting which drops from the ceiling void needs to be enclosed in boxing of gypsum-based board of the same composition and mass per unit area as the relevant robust detail™ ceiling treatment.

It is permissible to install services within the screed of concrete floors, provided that:
- the minimum thickness and mass per unit area of the screed is maintained as detailed in the relevant robust detail™
- the minimum cover on services is maintained
- the services do not break into or bridge the resilient layer(s). In the case of floors which also have a floating timber floor treatment (FFT), it is permissible for services to rise vertically out of the screed and through the FFT, provided the FFT flooring boards do not touch the services and the gaps around the services are sealed with a flexible sealant.

Services may be installed within a secondary ceiling lining system that is only supported from the resilient bars of a ceiling treatment, provided:
- the resilient bars can support the full load;
- the resilient bars achieve the minimum laboratory performance of Appendix E.

Particular attention should also be paid to Building (Scotland) Regulations Section 2 - Fire. Secondary ceilings to timber floors may also be supported by perimeter channels.

**Underfloor heating systems in separating floors**

**With timber floating floor treatments**
Underfloor heating may be used with timber floating floor treatments FFT1™, FFT2™ and FFT3™. Underfloor heating may not be used with FFT4™ or FFT5™.

Where underfloor heating is supported by mineral wool or foil-wrapped quilt, this may be used in place of the mineral wool that is specified between the battens on certain floors. Where underfloor heating is supported on rigid insulation (e.g. polystyrene), this may be used in addition to the mineral wool specified on certain floors. If this results in the batten void being filled, a polythene layer should be included to prevent direct contact with the underside of the floating deck. On floors where no mineral wool is specified, rigid insulation may be used alone, provided it does not bridge the resilient layer by providing a connection between the structural floor and any of the floating elements.

**With floating screed floors**
If underfloor heating systems are required to be installed within the screed they must not penetrate through the resilient layers and must avoid bridging the screed to the slab. Where rigid insulation boards...
Appendix A1 – Additional Guidance

are used which have surface indents for the heating conduits to be situated within, this is acceptable. For floors that incorporate an insulation layer, such indented boards may be used as part of the resilient layers, provided they are of an appropriate type of material, and that the minimum thickness of the resilient layer is maintained.

Resilient bars

When using resilient bars the specifier should ensure that the resilient bar manufacturer has a laboratory sound test report (as outlined in Appendix E) that demonstrates compliance with the robust details™ performance criteria.

Timber floating floor treatments

When using timber floating floor treatments (e.g. battens, cradles, platforms) the specifier should ensure that the floating floor treatment manufacturer has a laboratory sound test report (as outlined in Appendix C or D) that demonstrates compliance with robust details™ performance criteria.

It may be necessary for battens to be installed at closer centres or for additional support to be provided under heavy loads from internal walls, sanitary ware and kitchen units, etc. in accordance with the manufacturer’s instructions.

Rigid insulation boards (e.g. expanded, extruded or bead polystyrene) are not acceptable for use as the resilient layer or as a flanking strip with a floating floor treatment where the walking surface is board based.

Mineral wool may not be used as a resilient flanking strip. See Appendix B, Glossary, for definition of a resilient flanking strip.

Floating Floor Treatments in kitchens and bathrooms

It is permissible to install kitchen units and appliances along with bathroom sanitary fittings directly onto the sub floor construction. In all cases it is recommended that you contact the manufacturer directly to seek their advice relating to the specific FFT.

Laminated or ceramic flooring on separating floors

In principle it is acceptable to install laminate timber floor finishes on top of the timber floating floor treatments (FFT’s) indicated in Section 5 Robust Details™, provided:

- the manufacturer of the FFT system confirms that the performance of the FFT will not be affected;
- any specific guidelines, regarding the installation of such finishes, stipulated by the manufacturer of the FFT system are strictly followed;
- the laminate timber floor finish does not bypass the isolation provided by the flanking strips at the perimeters of the FFT by being in direct contact with the wall or skirting;

In the case of the Section 5 Robust Details™ with floating screed, it would also be acceptable in principle to provide a laminate timber floor finish, provided:

- the laminate timber floor finish does not bypass the isolation provided by the isolating edge strips at the perimeters of the screed by being in direct contact with the wall or skirting;

Screed floating floor treatments

Where screeds are separated from the core floor by resilient layers the screed must be fully isolated from the floor slabs, perimeter walls and skirtings and must not come into direct contact with these areas. The resilient layer(s) should completely cover the core floor surface and be wrapped round the edge of the screed to isolate the screed from the perimeter walls and skirtings.

Masonry angle supports

The masonry outer leaf of external walls used with robust details™ concrete or steel-concrete composite separating floors, may be supported on suitable proprietary masonry angle supports that are fixed to the edge of the separating floors.

Full height glazing units junction with robust details separating floor

If referred to in the detail, full height glazing units may be used. Where there is no inner leaf and a full height glazing unit, the core floor slab must break the vertical continuity of the glazing facade, as shown below.
Appendix A1 – Additional Guidance

Specification requirements
Where details have “minimum” in their specification, it indicates that the value should not be lower than that stated. It does not preclude the use of higher values.

For example, where a 75mm (min) cavity size is specified, it does not preclude the use of wider cavities. Similarly, a reference to a wall finish with 8 kg/m² gypsum-based board does not preclude the use of boards with a greater mass per unit area.

Lifting holes in cassette floors
The required acoustic performance of any of the robust detail™ timber or steel frame separating floors would not be affected if lifting holes within the sub-deck remain untreated, provided:
• each lifting hole is no larger than 120mm in diameter
• mineral wool quilt, of the appropriate specification as indicated in the relevant separating floor specification, is provided covering the whole area of the floor, between the joists/battens, in both the structural floor void and the floating floor void
• all other relevant requirements are strictly followed.

Lifting holes that are larger than 120mm in diameter should be sealed or covered with a board or panel of similar or greater density than the sub-deck board.
# Appendix A2 – Proprietary Flanking Conditions

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Appendix A2 – Proprietary Flanking Conditions

Icopal-MONARFLOOR® BRIDGESTOP® System for robust details™ cavity masonry walls. Refer to Table 6 in Introduction.

1. Separating wall – direct support on raft

2. Separating wall – suspended floor with gas membrane

3. Insulated raft foundation

4. Stepped foundation

Key

1  500mm wide (or 250mm where shown) MONARFLOOR® BRIDGESTOP® 3mm HP Acoustic Membrane laid under the party wall over the dpm. This is an integral part of the system.

2 MONARFLOOR® BRIDGESTOP® Quilt in two lifts to prevent mortar droppings touching both masonry leaves.

3 MONARFLOOR® BRIDGESTOP® Tie to penetrate at max 450mm centres. Ties are reversible. May also be used as render depth marker.

4 MONARFLOOR® 6mm Acoustic Angled Flanking Strip to isolate screed/insulation from party wall and to isolate skirting board from screed.

5 Continuous dpm over the raft where ground gasses are an issue. Contact Icopal for specification.

a Min 100mm lightweight or dense aggregate block (with appropriate Type A wall ties) dependent on Robust Detail™ being used.

b Min 75mm or 100mm cavity width dependent on Robust Detail™ being used.

c Wall finish dependent on Robust Detail™ used.

d Floating screed on insulation; or timber floating floor types FFT2™ resilient cradle and batten, FFT3™ resilient batten, or FFT4™ deep platform system.

e In situ concrete 365kg/m² (min) mass per unit area.

Contact details for Icopal-MONARFLOOR®:

Telephone: 0161 866 6540
Fax: 0161 865 8433
E-mail: acoustics.uk@icopal.com

The trade marks MONARFLOOR and BRIDGESTOP are the subject of UK trade mark registrations owned by Icopal Limited.
Appendix A2 – Proprietary Flanking Conditions

Smartroof complete interlocking “room-in-roof” panel system using robust details™ timber or masonry cavity walls. Refer to Table 6 in Introduction.

1. Gable flanking junction – masonry

2. Room-in-roof junction with masonry cavity walls

3. Gable flanking junction – timber frame

4. Room-in-roof junction with timber frame cavity walls

5. Separating wall – roof junction

Key
1 Smartroof panel.
2 Smartroof thin-joint compressed foam to take up unevenness in blockwork.
3 Smarttongue 35 x 72mm.
4 Smartchannel.
5 Smartroof roof panel.

a Outer leaf of external wall.
b Continue cavity batts up to gable end if required.
c Minimum 100mm blockwork.
d Timber frame inner leaf.
e Cavity closer.
f Gypsum-based board dependent on Robust Detail™ being used.
g Gypsum-based board nominal 8 kg/m². 2 layers required where separating floors are used (refer to Robust Detail™ separating floor).
h Nominal 8mm render coat (refer to relevant Robust Detail™ separating wall).
i Vertical metal straps at 1200mm centres if required.
j 35 x 50mm counterbatten.
k 2 layers gypsum-based board total nominal 22 kg/m².

Contact details for Smartroof Limited:
Telephone: 01675 44 23 45
Fax: 01675 44 30 95
E-mail: info@smartroof.co.uk
Web: www.smartroof.co.uk
Appendix A2 – Proprietary Flanking Conditions

Kingspan TEK inner leaf flanking condition for robust details™ timber separating walls. Refer to Table 6 in Introduction. Currently when used with separating floors in apartments, separating floors will require pre-completion testing.

1. External (flanking) wall junction

2. Staggered external (flanking) wall junction

Key

2. Service void (if required).
3. One layer of gypsum-based board nominal 8 kg/m² on inner leaf where there is no separating floor, e.g. for houses.
   Two layers of gypsum-based board nominal 8 kg/m² each on inner leaf where there is a separating floor (non Robust Detail™ floor), e.g. for flats and apartments.
4. Approved fixings to TEK BBA Cert No. 02/S029.

a. Masonry outer leaf (min 100mm thick).
b. External wall cavity (min 50mm).
c. Robust Details™ timber frame separating wall.
   (Refer to Table 6 in Introduction and relevant timber frame robust details™ in Handbook).
d. Close cavity with flexible cavity stop (see Appendix A).
e. Seal all joints with tape or caulk with sealant.

Contact details for Kingspan TEK,
Kingspan Insulation Limited:

**Telephone:** 01544 387382
**Fax:** 01544 387482
**E-mail:** technical.uk@tek.kingspan.com
**Web:** www.tek.kingspan.com
Appendix A2 – Proprietary Flanking Conditions

Prestoplan PresPeak 60 interlocking single spandrel panel system for use on robust details™ timber separating walls in non room-in-roof situations. Refer to Table 6 in Introduction.

1. Spandrel panel located parallel to trussed rafters

2. Spandrel panel located across trussed rafters

3. Spandrel panel joint detail

Key
1 PresPeak 60 spandrel panels.
a Firestop wired mineral wool closer.
b Flexible cavity stop.
c Timber frame separating wall.
d Site-fixed rafter extension.
e Continuous blocking between bottom chords of trusses.
f Bottom chord extended for support.
g Intumescent tape.

Refer also to manufacturer’s guidance

Contact details for Prestoplan Limited:
Telephone: 01772 627373
Fax: 01772 627575
Web: www.prestoplan.co.uk

January 2012
# Appendix A3 – Specific Proprietary Products

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Appendix A3 – Specific Proprietary Products

British Gypsum GypFloor SB floating floor treatment for robust details™ concrete separating floors. Refer to Table 7 in Introduction.

Floating floor treatment 1 – 70mm

![Diagram of 70mm floating floor treatment]

Floating floor treatment 2 – 50mm

![Diagram of 50mm floating floor treatment]

Key
1 British Gypsum 70 SB 65 steel batten.  
2 British Gypsum 50 SB 65 steel batten.  

a Robust Detail™ concrete separating floor.  
b 18mm (min) t&g flooring board.

Note: The robust details™ separating floor may require a levelling screed. Please refer to the relevant floor details in the Handbook.

This system must be installed in accordance with the manufacturer’s instructions.

Gypframe GypFloor SB flanking strip SB3 must be applied around the perimeter of the flooring board to isolate floor from walls and skirting.

For further guidance on floating floor treatments and flanking strips, please refer to Appendix A1.

Contact details for British Gypsum Limited:
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Fax: 08705 456 356
E-mail: bgtechnical.enquiries@bpb.com
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robustdetails®

January 2012
Appendix A3 – Specific Proprietary Products

Insumate insulation support tray for robust details™ timber joist separating floors. Refer to Table 7 in Introduction and the relevant robust details™ for acceptable joist types.

Key
1 Insumate insulation support tray.

a Floating floor treatment.
b Floor sub-deck.
c Absorbent material.
d Floor joist – Refer also to Table 7 in Introduction.
e Ceiling treatment.
(For specification of items a to e, refer to the relevant robust detail™)

Note
Ensure absorbent material ‘c’ is fitted between all joists, and also between the final joist and the perimeter blocking.

Insumate must be installed in accordance with the manufacturer’s instructions.

Contact details for Insumate Limited:

Telephone: 01768 398 991
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Web: www.insumateltd.com
Appendix B

Glossary

The definitions given below are for the purposes of this document only and are not intended to be rigorous.

Absorption
Conversion of sound energy into heat, often by the use of a porous material.

Absorbent material
Material that absorbs sound energy.

Airborne sound
Sound propagating through the air, often linked to noise sources such as speech and television.

Airborne sound insulation
Sound insulation that reduces the transmission of airborne sound between adjoining dwellings or parts of adjoining dwellings.

Block thickness
The block thickness quoted is the work size. Permissible manufacturing tolerances are given in BS 6073.

Built in insulation
Insulation batts built in during construction (not pumped or blown material).

Cavity stop
A proprietary product or material such as mineral wool (fibre) used to close the gap in a cavity wall.

Composite resilient batten
A timber batten which is composed of a timber batten with a prebonded resilient material to provide isolation between the flooring surface layers and floor base.

Cradle / Saddle
An intermediate support system (with a resilient layer base) which uses levelling packer pieces to support a timber batten, isolating it from the floor base.

C\_f (see also \( \Delta R_w + C_{fr} \))
Spectrum adaptation term (No.2) from BS EN ISO 717-1 to take account of a specific sound spectra (which are predominantly low frequency based).

Decibel (dB)
The unit used for different acoustic quantities to indicate the level with respect to a reference level.

Density (kg/m\(^2\))
Mass per unit volume, expressed in kilograms per cubic metre (kg/m\(^3\)).

Direct transmission
Sound which is transmitted only through the main separating element and involves no other flanking element.

\( D_{nT} \)
Standardised level difference. The difference in sound level between a pair of rooms (source and receiving rooms), for a stated frequency, which is corrected (normalised) for the reverberation time (in the receiving room). See BS EN ISO 140-4.

\( D_{nTw} \)
Weighted standardised level difference. A single-number quantity (weighted) which characterises the airborne sound insulation between two rooms. See BS EN ISO 717-1.

Flanking element (e.g. flanking wall)
Any building element that contributes to the airborne sound or impact transmission between rooms in a building which is not the direct separating element (i.e. not the separating wall or separating floor).

Flanking strip or edge strip
A 5mm (min) resilient strip which is located at the perimeter of a floor to isolate the floor surface layer from the perimeter walls and skirtings. A typical example of a flanking strip is 5mm (min) foamed polyethylene. Rigid boards, such as extruded, expanded or bead polystyrene) or mineral wool based products may not be used as a flanking strip where the walking surface is board based.

For screed floating floors the permitted flanking strip or edge strip detail will be dependant on the resilient layer system adopted and the relevant robust detail™ must be strictly followed.

Flanking transmission
Airborne sound or impact transmission between rooms which is transmitted via flanking elements and/or flanking elements in conjunction with the main separating elements.

Flexible closer
A flexible cavity stop or cavity barrier which seals the air path in cavities linking adjoining dwellings.

Floating floor treatment
A timber floating floor system which may use battens, cradles or platform base; all of which use a resilient layer to provide isolation from the base floor and adjacent wall elements.

Flooring board
The boards which form the top surface of the floor. Boards should be wood-based panels 600mm (min) wide.
Appendix B

**Habitable room**
For the purposes of Section 5 robust details™, habitable rooms are all rooms except the hall, staircase and landing.

**Internal wall**
A wall or partition which divides the dwelling space into different functions but which does not provide separation between different dwellings.

**Internal floor**
A floor which divides the dwelling space into different functions but which does not provide separation between different dwellings.

\[ L'_{nT} \]
Standardised impact sound pressure level. The impact sound pressure level in the receiving room at a stated frequency, corrected (normalised) for the reverberation time in the receiving room. See BS EN ISO 140-7.

\[ L'_{nTW} \]
Weighted standardised impact sound pressure level. A single-number quantity (weighted) to characterise the impact sound insulation of floors. See BS EN ISO 140-7.

**Mass per unit area (or surface density)**
Mass per unit area is expressed in kilograms per square metre (kg/m²).

**Mineral wool**
A rock or glass based mineral material which can be manufactured in a quilt form or batt (more rigid) form.

**Nominal density of gypsum-based board**
The density stated in the robust detail™ with a tolerance of up to -0.3 kg/m² per layer.

**Proprietary screed**
A self-compacting floor screed, which achieves a nominal mass per unit area of 80 kg/m² as laid, without the requirement for manual or mechanical compacting.

\[ \Delta L_w \]
This is specific to Robust Details™ performance requirements and is the difference in weighting between two floor airborne tests undertaken in an acoustic test laboratory.

**Rip liner**
Small section of wall lining material or any board material fitted in advance of the main wall lining to allow the installation of the floating floor treatment. This does not necessarily need to be the same thickness as the wall lining material.

Particular attention should also be paid to Building (Scotland) Regulations Section 2 - Fire.

\[ R_w \]
A single-number quantity (weighted) which characterises the airborne sound insulation of a building element from measurements undertaken in an acoustic test laboratory. See BS EN ISO 717-1.

**Robust Detail™**
A robust detail™ for Section 5 of the Building (Scotland) Regulations has been given the status of RD following analysis of test results against criteria agreed with the Scottish Association of Building Standards Managers (SABSM).

**Sealant (acoustic or flexible)**
A gun-applied sealant which has resilience and forms a non-rigid caulking.

**Separating floor**
A floor that separates adjoining dwellings.

**Separating wall**
A wall that separates adjoining dwellings.

**Spandrel panel**
An element manufactured to divide or close off the profile in the roof space.

\[ t&g \]
Tongue and groove edged jointing of flooring boards (bonded lapped joints are also acceptable)
Appendix C

Determination of the acoustic performance requirements for floating floor treatments used with RD timber separating floors

To determine the acoustic performance of floating floor treatments on robust detail™ timber separating floors airborne and impact measurements should be undertaken in an acoustic test laboratory. The following test procedure may be used for Robust Detail™ timber separating floors with floating floor treatments. The following sections C.1 to C.4 outline the measurement and performance rating criteria.

C.1 Test Laboratory Requirements

The test facility must have UKAS Accreditation (or EC equivalent) for the measurement of sound insulation in the laboratory, for both airborne sound insulation and impact sound transmission. The test measurement should be undertaken in accordance with BS EN ISO 140-3, BS EN ISO 140-6 and the performance of each measurement rated in accordance with BS EN ISO 717 (Parts 1 & 2). The measurements should be undertaken in a laboratory with suppressed flanking transmission and in accordance with BS EN ISO 140-1 and BS EN ISO 140-2.

The $R'_{\text{max}}$ value of the laboratory test facility shall be at least 10 dB greater than the sound insulation value of the structure under test.

C.2 Core (or base) Timber Floor and Floating Floor Treatment

Testing should be undertaken on a core (or base) floor which consists of the following construction specification:

- **Floor Decking**: 15mm OSB timber decking board (or equivalent timber based board) with mass per unit area of 10-11 kg/m²
- **Joists**: 235mm x 50mm solid timber joists C16 grade timber
- **Insulation**: 100mm glass based mineral wool insulation with a density of 10-11 kg/m³
- **Ceiling**: Two layers of 12.5mm gypsum-based board with a mass per unit area for each layer of 8-8.5 kg/m².

The timber joists should be mounted on joist hangers at 450mm centres and the 100mm (deep) glass based mineral wool insulation should be placed in the cavities between the joists and also between cavities formed between the joists and the test aperture border. The floor decking should be mounted on the timber joists with screws at 300mm centres. All junctions between the floor surface perimeter and test aperture should be sealed with a flexible or acoustic sealant.

The ceiling layers should be mounted with joints staggered and the first layer (inner layer) should be fixed to the underside of the joists with screws, at 300mm centres within the field of the boards and at 150mm centres at the board ends. The second layer (outer layer) should be fixed with screws, at 230mm centres within the field of the boards and at 150mm centres at the board ends. The perimeter of the ceiling should be sealed with flexible or acoustic mastic sealant and all joints and screwheads taped with self-adhesive tape.

Floating Floor Treatment

The floating floor treatment should cover the entire test area of the core floor surface and should be constructed in accordance with the manufacturer’s instructions. All robust detail™ floating floor treatments require a flanking strip to isolate the edge of the floorboard from the perimeter walls. As such the manufacturer should also use the flanking strip, which they would normally use on site, in the laboratory measurements.

C.3 Testing Required

For the purposes of evaluating the performance of a floating floor treatment for robust details™ involving timber separating floors four different measurements are required (2 airborne and 2 impact measurements). The following measurements are required:

**Airborne**

- **Test 1**: Determination of $R_w + C_t +$ for the core (or base) timber floor.
- **Test 2**: Determination of $R_w + C_t +$ for the core (or base) timber floor with the floating floor treatment applied to the core floor surface.

**Impact**

- **Test 3**: Determination of $L_n,w$ for the core (or base) timber floor.
- **Test 4**: Determination of $L_n,w$ for the core (or base) timber floor with the floating floor treatment applied to the core floor surface.
Appendix C

C.4 Expression of Performance

The airborne sound insulation performance of the floating floor treatment should be expressed as the improvement in airborne sound insulation \((rdR_w + C_{tr})^*\) as a result of the application of the floating floor treatment to the core floor \((rd\Delta R_w + C_{tr}^* = \text{Test 2} - \text{Test 1})\).

The impact sound transmission performance of the floating floor treatment should be expressed as the reduction in impact sound transmission \((rd\Delta L_w)\) as a result of the application of the floating floor treatment to the core floor \((rd\Delta L_w = \text{Test 3} - \text{Test 4})\).

* These are commonly referred to as delta \((\Delta)\) requirements and are measured in acoustic laboratories for specific products (e.g. resilient bars or floating floor treatments). The term \(C_{tr}\) is included for assessing the low frequency performance of such products during laboratory tests. (This is similar to the approach outlined in the Example Constructions for use with Section 5: Noise Domestic Handbook Scotland regarding such components).

Under Section 5: Noise the on-site (or field) performance requirements for separating walls and floors involving airborne sound insulation should not include \(C_{tr}\) and are only reported as \(D_{nt,w}\).
Appendix D

Determination of the acoustic performance requirements for floating floor treatments used with Robust Detail™ concrete and steel-concrete composite separating floors

To determine the acoustic performance of floating floor treatments on robust detail™ concrete separating floors airborne and impact measurements should be undertaken in an acoustic test laboratory. The following test procedure may be used for Robust Detail™ concrete and steel-concrete composite separating floors with floating floor treatments. The following sections D.1 to D.4 outline the measurement and performance rating criteria.

D.1 Test Laboratory Requirements

The test facility must have UKAS Accreditation (or EC equivalent) for the measurement of sound insulation in the laboratory for impact sound transmission. The test measurement should be undertaken in accordance with BS EN ISO 140-6 and the performance of each measurement rated in accordance with BS EN ISO 717-2. The measurements should be undertaken in a laboratory with suppressed flanking transmission and in accordance with BS EN ISO 140-1 and BS EN ISO 140-2.

The R' max value of the laboratory test facility shall be at least 10 dB greater than the sound insulation value of the structure under test.

D.2 Core (or base) Concrete Floor and Floating Floor Treatments

Testing should be undertaken on a core (or base) floor which consists of the following construction specification:

**Levelling Screed**

10mm (min) - 25mm (max) levelling screed using proprietary cement based screed with bonding agent. ‘Rapidry Formula’ screeds may be used.

**Precast plank**

150mm deep hollow-core precast concrete plank of mass per unit area 295-305 kg/m². The hollow segments of the precast plank should be located at regular centres and should be distributed over a minimum of 80% of the plank width.

The precast concrete hollow-core planks should be mounted in the test aperture to cover the entire test aperture area. The planks should be tightly abutted and all joints should be filled with grout including top and bottom joints. No voids should remain at the floor perimeter junction with the test aperture border. The levelling screed should be applied such that it is directly bonded to the entire floor surface of the planks. No ceiling treatments are permitted and no additional ceiling layers should be applied.

**Floating Floor Treatment**

The floating floor treatment should cover the entire test area of the core floor surface and should be constructed in accordance with the manufacturer’s instructions. All robust detail™ floating floor treatments require a flanking strip to isolate the edge of the flooring board from the perimeter walls. As such the manufacturer should also use the flanking strip, which they would normally use on site, in the laboratory measurements.

D.3 Testing Required

For the purposes of evaluating the performance of a floating floor treatment for Robust Detail™ concrete and steel-concrete composite separating floors, two different impact measurements are required. The following measurements are required:

**Impact**

Test 1  Determination of Ln,w for the core (or base) concrete floor.

Test 2  Determination of Ln,w for the core (or base) concrete floor with the floating floor treatment applied to the core floor surface.

D.4 Expression of Performance

The impact sound transmission performance of the floating floor treatment should be expressed as the reduction in impact sound transmission (rd ∆Lw) as a result of the application of the floating floor treatment to the core floor (rd ∆Lw = Test 1 - Test 2).

D.5 Replacement Products

A new replacement product may be benchmark tested using an ISO 140-8 laboratory test core floor as an alternative to the laboratory test core floor indicated above, provided:

- the ISO 140-8 floor structure is 140mm thick ±5mm tolerances
- the original product has been successfully tested in accordance with Appendix D of the Robust Details™ Part E Handbook using the laboratory test core floor specified in Appendix D.
Appendix D

- The proposed product is a direct replacement for the original product.
- Both the original product and the proposed product are tested on the same ISO 140-8 laboratory test core floor structure to provide comparative test data.
- The results of the comparative test data confirm that there is no loss in performance between the proposed product and the original product, when tested on the ISO 140-8 floor.
- The details of the proposals, complete with the comparative test data, are submitted to Robust Details Ltd for approval.
- Robust Details Ltd provide written confirmation of such approval.
Appendix E

Determination of the acoustic performance requirements for resilient bars used on ceilings

To determine the acoustic performance of resilient bars for use within robust detail™ separating floors airborne and impact measurements should be undertaken in an acoustic test laboratory. The performance of the resilient bars is calculated from the improvement in airborne and impact performance by a ceiling connected via resilient bars as opposed to a direct fix ceiling. The ceiling linings should be identical in both tests. The following sections E.1 to E.4 outline the measurement and performance rating criteria.

E.1 Test Laboratory Requirements

The test facility must have UKAS Accreditation (or EC equivalent) for the measurement of sound insulation in the laboratory, for both airborne sound insulation and impact sound transmission. The test measurement should be undertaken in accordance with BS EN ISO 140-3, BS EN ISO 140-6 and the performance of each measurement rated in accordance with BS EN ISO 717 (Parts 1 & 2). The measurements should be undertaken in a laboratory with suppressed flanking transmission and in accordance with BS EN ISO 140-1 and BS EN ISO 140-2.

The $R'_{\text{max}}$ value of the laboratory test facility shall be at least 10 dB greater than the sound insulation value of the structure under test.

E.2 Direct Fix Ceiling versus Resilient Bar Ceiling

Testing should be undertaken on a floor with a direct fix ceiling which consists of the following construction specification:

**Floor Decking**
15mm OSB timber decking board (or equivalent timber based board) with mass per unit area of 10-11 kg/m²

**Joists**
235mm x 50mm solid timber joists C16 grade timber

**Insulation**
100mm glass based mineral wool insulation with a density of 10-11 kg/m³

**Ceiling**
Two layers of gypsum-based board with an overall mass per unit area of 23-25 kg/m².

The timber joists should be mounted on joist hangers at 450mm centres and the 100mm (deep) glass based mineral wool insulation should be placed in the cavities between the joists and also between cavities formed between the joists and the test aperture border. The floor decking should be mounted on the timber joists with screws at 300mm centres. All junctions between the floor surface perimeter and test aperture should be sealed with a flexible or acoustic sealant.

The direct fix ceiling is composed of two layers of gypsum-based board which have an overall mass per unit area of 23-25 kg/m² and have a minimum overall thickness of 30mm. The ceiling layers should be mounted with joints staggered and the first layer (inner layer) should be fixed to the underside of the joists with screws, at 300mm centres within the fields of the boards and 150mm centres at the board ends, and the second layer (outer layer) should be fixed with screws, at 230mm centres within the fields of the boards and at 150mm centres at the board ends. The perimeter of the ceiling should be sealed with flexible or acoustic sealant and all joints and screwheads taped with self-adhesive tape.

The floor construction and materials used should be identical to the Direct Fix test structure except that the ceiling is only connected to the joists via the resilient bars. The resilient bars should be directly connected to the joists at 400mm centres using metal screws, mounted perpendicular to the joist span and in accordance with the manufacturer’s instructions. The gypsum-based board ceiling layers should be identical in their material properties to those used for the Direct Fix ceiling.
E.3 Testing Required

For the purposes of evaluating the performance of resilient bars for robust details four different measurements are required (2 airborne and 2 impact measurements). The following measurements are required:

**Airborne**

Test 1 Determination of $R_w + C_{tr}^*$ for the floor with a direct fix ceiling.

Test 2 Determination of $R_w + C_{tr}^*$ for the floor with a ceiling connected with resilient bars.

**Impact**

Test 3 Determination of $L_{n,w}$ for the floor with a direct fix ceiling.

Test 4 Determination of $L_{n,w}$ for the floor with a ceiling connected with resilient bars.

E.4 Expression of Performance

The airborne sound insulation performance of resilient bars should be expressed as the improvement in airborne sound insulation $(\Delta R_w + C_{tr})^*$ as a result of the application of the resilient bar connected ceiling as opposed to the direct fix ceiling $(\Delta R_w + C_{tr})^* = \text{Test 2} - \text{Test 1})$.

The impact sound transmission performance of resilient bars should be expressed as the reduction in impact sound transmission $(\Delta L_w)$ as a result of the application of the resilient bar connected ceiling as opposed to the direct fix ceiling $(\Delta L_w = \text{Test 3} - \text{Test 4})$.

* These are commonly referred to as delta ($\Delta$) requirements and are measured in acoustic laboratories for specific products (e.g. resilient bars or floating floor treatments). The term $C_{tr}$ is included for assessing the low frequency performance of such products during laboratory tests. (This is similar to the approach outlined in the Example Constructions for use with Section 5: Noise Domestic Handbook Scotland regarding such components).

Under Section 5: Noise the on-site (or field) performance requirements for separating walls and floors involving airborne sound insulation should not include $C_{tr}$ and are only reported as $D_{nT,w}$.
Appendix F

Determination of the Influence on the Acoustic Performance of RD Timber Separating Floors due to the presence of Downlighters (Recessed Lighting)

To determine the influence on the acoustic performance due to the presence of downlighters for use within Robust Detail™ timber separating floors airborne and impact measurements should be undertaken in an acoustic test laboratory. For the purposes of Robust Detail™ separating floors the following test procedure may be used.

Note: This test method may also be used by manufacturers to demonstrate whether they can exceed the spacing/area criteria which are specified in the robust detail specification sheets for the timber, concrete and steel-concrete composite floors.

The influence on the acoustic performance of the timber floor is calculated from airborne and impact measurements on a timber floor structure with and without downlighters present. The timber floor structure must be identical in both sets of tests (for airborne and impact) except for the presence of the downlighters.

For downlighters to qualify for inclusion in Robust Detail™ timber separating floors, the difference in performance with the downlighters present should be no worse than 1dB for both airborne and impact measurements, when tested under the following conditions. The following sections F.1 to F.4 outline the measurement and performance rating criteria.

F.1 Test Laboratory Requirements

The test facility must have UKAS Accreditation (or EC equivalent) for the measurement of sound insulation in the laboratory, for both airborne sound insulation and impact sound transmission. The test measurement should be undertaken in accordance with BS EN ISO 140-3, BS EN ISO 140-6 and the performance of each measurement rated in accordance with BS EN ISO 717 (Parts 1 & 2). The measurements should be undertaken in a laboratory with suppressed flanking transmission and in accordance with BS EN ISO 140-1 and BS EN ISO 140-2.

The $R'_{\text{max}}$ value of the laboratory test facility shall be at least 10dB greater than the sound insulation value of the structure under test.

F.2 Core Timber Floor (no downlighters)

Testing should be undertaken on a floor with the following construction specification:

**Floor Decking** 15mm OSB timber decking board (or equivalent timber based board) with mass per unit area of 10-11 kg/m²

**Joists** 235mm x 50mm solid timber joists C16 grade timber

**Insulation** 100mm glass based mineral wool insulation with a density of 10-11 kg/m³

**Ceiling** Two layers of gypsum-based board with an overall mass per unit area of 23-25 kg/m².

Construction of Initial Timber Floor (no downlighters)

The timber joists should be mounted on joist hangers at 450mm centres and the 100mm (deep) glass based mineral wool insulation should be placed in the cavities between the joists and also between cavities formed between the joists and the test aperture border. The floor decking should be mounted on the timber joists with screws at 300mm centres. All junctions between the floor surface perimeter and test aperture should be sealed with a flexible or acoustic mastic sealant.

The direct fix ceiling is composed of two layers of gypsum-based board which have an overall mass per unit area of 23-25 kg/m² and have a minimum overall thickness of 30mm. The ceiling layers should be mounted with joints staggered and the first layer (inner layer) should be fixed to the underside of the joists with screws, at 300mm centres within the fields of the boards and 150mm centres at the board ends, and the second layer (outer layer) should be fixed with screws, at 230mm centres within the fields of the boards and at 150mm centres at the board ends. The perimeter of the ceiling should be sealed with flexible or acoustic mastic sealant and all joints and screwheads taped with self adhesive tape.

Construction of Timber Floor with Downlighters

The floor construction and materials used should be identical to the initial timber floor test structure except that downlighters have been installed into the ceiling. The downlighters should be spaced at a minimum of 1 downlighter per 2m² of ceiling area and at not less than 0.75m spacings. (e.g. 10m² of ceiling area equates to at least 5 downlighters). The test results must indicate the number per unit area and the spacings used in the tests and, if successful manufacturers are expected to include this information in their test reports and fitting instructions.
Appendix F

F.3 Testing Required
For the purposes of evaluating the influence on performance due to downlighters for Robust Detail timber separating floors, four different measurements are required (2 airborne and 2 impact measurements). The following measurements are required:

**Airborne**
Test 1 Determination of $R_w + C_{tr}$* for the initial timber floor
Test 2 Determination of $R_w + C_{tr}$* for the initial timber floor plus downlighters

**Impact**
Test 3 Determination of $L_{n,w}$ for the initial timber floor.
Test 4 Determination of $L_{n,w}$ for the initial timber floor plus downlighters

F.4 Performance Required for RD Timber Separating Floors
For airborne sound insulation performance the difference between Test 2 and Test 1 (Test 2 - Test 1) should be no worse than (-1dB).

For impact sound transmission performance the difference between Test 3 and Test 4 (Test 3 - Test 4) should be no worse than (-1dB).

**NOTE:** Downlighters which qualify for the above performance requirements must also be of suitable integrity to meet the appropriate Building (Scotland) Regulations Section 2 - Fire.

* These are commonly referred to as delta ($\Delta$) requirements and are measured in acoustic laboratories for specific products (e.g. resilient bars or floating floor treatments). The term $C_{tr}$ is included for assessing the low frequency performance of such products during laboratory tests. (This is similar to the approach outlined in the Example Constructions for use with Section 5: Noise Domestic Handbook Scotland regarding such components).

Under Section 5: Noise the on-site (or field) performance requirements for separating walls and floors involving airborne sound insulation should not include $C_{tr}$ and are only reported as $D_{nT,w}$. 