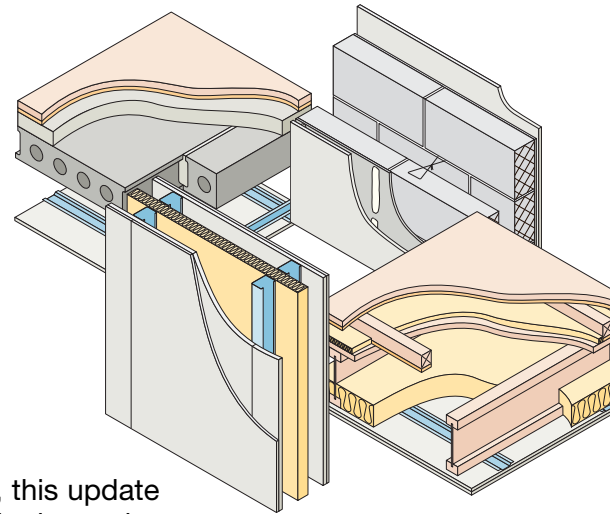


April 2017 Update Pack



Dear Colleague,

Following on from the two new Details already issued this year, this update sees the URSA PARTY WALL ROLL added as a further option in the cavity masonry wall E-WM-22.

This update also includes additional information and clarification on points raised through technical enquiries; and from issues we have encountered through our Performance Monitoring. The main area highlighted is the need to correctly install the floating floor treatment through internal doorways and at thresholds where access is provided to balconies etc. In all cases, it is critical that edge isolation is provided to effectively isolate the screed from door frames and reveals; and that impact noise cannot transfer through threshold strips or boards that are not adequately isolated.

Please contact our Technical department if you have any concerns in these areas.

And as usual, don't forget that if you still have a hardcopy Handbook, please feel free to print off this pack (double-sided if you can), and insert the pages in your Handbook as described below.

Please update your February 2017, 4th Edition Handbook as follows:

1. Remove and replace just pages 3-4 and 9-10 in the Introduction.
2. Remove and replace all pages of the separating wall E-WM-22.
3. Remove and replace all pages of the separating floor E-FC-18.
4. Remove and replace all pages of Appendix A1.
5. Remove and replace just the single leaf (pages 7 & 8) in Appendix A2.

Yours sincerely

A handwritten signature in black ink, appearing to read 'John Tebbit', written over a horizontal line.

John Tebbit

Chief Executive,
Robust Details Limited



Changes to the fourth edition following April 2017 update

Section Page Amendment

Introduction

Table 1	3	Further insulation option added to E-WM-22: URSA PARTY WALL ROLL.
Table 6a	9	Space4 system can now be used with E-WM-17.

Separating Wall – Masonry

E-WM-22

All	1-6	Further insulation option added: URSA PARTY WALL ROLL.
-----	-----	--

Separating Floor – Concrete

E-FC-18

All	1-8	Section references adjusted.
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Appendix A1

Steel beams	4	Text added to clarify beams can only be built into cavity separating walls.
Underfloor heating	8	Further clarification given for the installation of underfloor heating.
Timber floating floor	9	Clarification on coverage of the floating floor treatment.
Screed floating floor	9	Clarification on coverage of the floating floor treatment.

Appendix A2

Space4 room-in-roof	8	Ceiling treatment amended to include OSB layer.
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Introduction

List of Robust Details

Table 1 – Separating walls

E-WM-1	masonry – dense aggregate blockwork (wet plaster)
E-WM-2	masonry – lightweight aggregate blockwork (wet plaster)
E-WM-3	masonry – dense aggregate blockwork (render and gypsum-based board)
E-WM-4	masonry – lightweight aggregate blockwork (render and gypsum-based board)
E-WM-5	masonry – Besblock “Star Performer” cellular blockwork (render and gypsum-based board)
E-WM-6	masonry – aircrete blockwork (render and gypsum-based board)
E-WM-7	Suspended from further registrations
E-WM-8	masonry – lightweight aggregate blockwork Saint Gobain – Isover RD35 (gypsum-based board)
E-WM-9	masonry – solid dense aggregate blockwork (render and gypsum-based board)
E-WM-10	masonry – aircrete thin joint blockwork with specified wall ties (render and gypsum-based board finish)
E-WM-11	masonry – lightweight aggregate blockwork (render and gypsum-based board) with 100mm minimum cavity
E-WM-12	masonry – Plasmor “Aglite Ultima” lightweight aggregate blockwork (render and gypsum-based board)
E-WM-13	masonry – aircrete thin joint - untied blockwork (render and gypsum-based board)
E-WM-14	masonry – lightweight aggregate blockwork Saint Gobain – Isover RD35 (gypsum-based board) with 100mm minimum cavity
E-WM-15	masonry – aircrete blockwork Saint Gobain - Isover RD35 (gypsum-based board)
E-WM-16	masonry – dense aggregate blockwork (render and gypsum-based board) with 100mm minimum cavity
E-WM-17	masonry – lightweight aggregate blockwork Saint Gobain-Isover RD Party Wall Roll (gypsum-based board)
E-WM-18	masonry – dense aggregate blockwork (wet plaster) with 100mm minimum cavity
E-WM-19	masonry – dense or lightweight aggregate blockwork (render and gypsum-based board) with 100mm minimum cavity and MONARFLOOR® BRIDGESTOP® system
E-WM-20	masonry – lightweight aggregate blockwork Saint Gobain – Isover RD Party Wall Roll (gypsum-based board) with 100mm minimum cavity
E-WM-21	masonry – lightweight aggregate blockwork (wet plaster) with 100mm minimum cavity
E-WM-22	masonry – lightweight aggregate blockwork – Knauf Earthwool Masonry Party Wall Slab or Superglass Party Wall Roll or URSA Cavity Batt 35 or URSA PARTY WALL ROLL (gypsum-based board) with 100mm minimum cavity
E-WM-23	masonry – aircrete blockwork Superglass Party Wall Roll (gypsum-based board) with 100mm minimum cavity
E-WM-24	masonry – aircrete blockwork Saint Gobain – Isover RD Party Wall Roll (gypsum-based board) with 100mm minimum cavity
E-WM-25	masonry – Porotherm clay blockwork (Ecoparge and gypsum-based board) with 100mm minimum insulated cavity
E-WM-26	masonry – Besblock “Star Performer” cellular blockwork (gypsum-based board) with 100mm minimum insulated cavity
E-WM-27	masonry – lightweight aggregate blockwork Superglass Party Wall Roll (gypsum-based board) with minimum 75mm cavity
E-WM-28	masonry – lightweight aggregate blockwork Knauf Party Wall Wool (gypsum-based board) with minimum 100mm cavity
E-WM-29	masonry – Porotherm clay blockwork (Ecoparge and gypsum-based board) with 75mm minimum insulated cavity
E-WM-30	masonry – aircrete blockwork Knauf Party Wall Wool (gypsum-based board) with 100mm minimum cavity

See over for timber and steel frame walls

Introduction

List of Robust Details

Table 1 (continued) – Separating walls

E-WT-1	timber frame – without sheathing board
E-WT-2	timber frame – with sheathing board
E-WT-3	timber frame – Elecoframe prefabricated panels
E-WT-4	timber frame – Excel Industries Warmcell 500 insulation - with sheathing board
E-WS-1	steel frame – twin metal frame
E-WS-2	steel frame – British Gypsum Gypwall QUIET IWL
E-WS-3	steel frame – modular steel frame housing
E-WS-4	steel frame – twin metal frame - 250mm between linings
E-WS-5	steel frame – twin metal frame

Introduction

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

		BRIDGESTOP® system	Smartroof system	Kingspan TEK	Prestoplan PresPeak 60	Wall Cap RDA2	RoofSpace I-Roof	Space4 system
Masonry walls	E-WM-1	✓				✓		
	E-WM-2	✓				✓		
	E-WM-3	✓	✓			✓	✓	
	E-WM-4	✓	✓			✓	✓	
	E-WM-5	✓	✓			✓	✓	
	E-WM-6		✓			✓	✓	
	E-WM-8	✓	✓			✓	✓	
	E-WM-9							
	E-WM-10		✓			✓	✓	
	E-WM-11	✓	✓			✓	✓	
	E-WM-12	✓	✓			✓	✓	
	E-WM-13		✓			✓	✓	
	E-WM-14	✓	✓			✓	✓	
	E-WM-15		✓			✓	✓	
	E-WM-16	✓	✓			✓	✓	
	E-WM-17	✓	✓			✓	✓	✓
	E-WM-18	✓				✓		
	E-WM-19	✓ see note 1						
	E-WM-20	✓	✓			✓	✓	
	E-WM-21	✓				✓		
	E-WM-22	✓	✓			✓	✓	
	E-WM-23	✓ see note 1	✓			✓	✓	
	E-WM-24	✓ see note 1	✓			✓	✓	
	E-WM-25					✓		
	E-WM-26	✓	✓			✓	✓	✓
	E-WM-27	✓	✓			✓	✓	
	E-WM-28	✓	✓			✓	✓	
	E-WM-29					✓		
	E-WM-30	✓ see note 1	✓			✓	✓	

Key

- 1 When constructing these walls off raft foundations, the raft must have insitu concrete with 150mm minimum thickness.

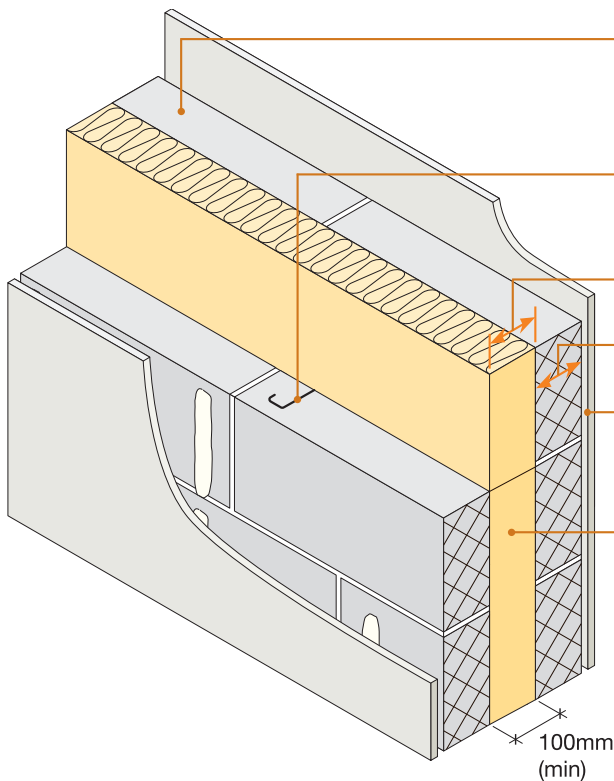
See over for timber and steel frame walls

Introduction

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

	BRIDGESTOP® system	Smartroof system	Kingspan TEK	Prestoplan PresPeak 60	Wall Cap RDA2	RoofSpace I-Roof	Space4 system
Timber walls	E-WT-1	✓	✓	✓	✓	✓	
	E-WT-2	✓	✓	✓	✓	✓	✓
	E-WT-3	✓			✓	✓	
	E-WT-4	✓			✓	✓	
Steel walls	E-WS-1				✓		
	E-WS-2						
	E-WS-3						
	E-WS-4				✓		
	E-WS-5						

- Lightweight aggregate blocks
- Knauf Earthwool Masonry Party Wall Slab or Superglass Party Wall Roll
- or URSA Cavity Batt 35 or URSA PARTY WALL ROLL
- Gypsum-based board (nominal 10 kg/m²) on dabs

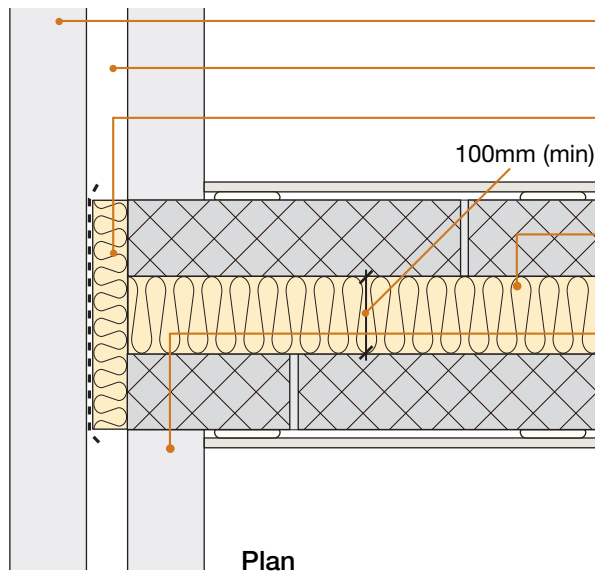


Block density	1350 to 1600 kg/m ³ or Plasmor Aglite Ultima 1050 kg/m ³
Wall ties	Approved Document E 'Tie type A' (see Appendix A)
Cavity width	100mm (min)
Block thickness	100mm (min), each leaf
Wall finish	Gypsum-based board (nominal 10 kg/m ²) mounted on dabs
Insulation	100mm Knauf Earthwool Masonry Party Wall Slab or Superglass Party Wall Roll or URSA Cavity Batt 35 or URSA PARTY WALL ROLL
External (flanking) wall	Masonry (both leaves) with 50mm (min) cavity – clear, fully filled or partially filled with insulation

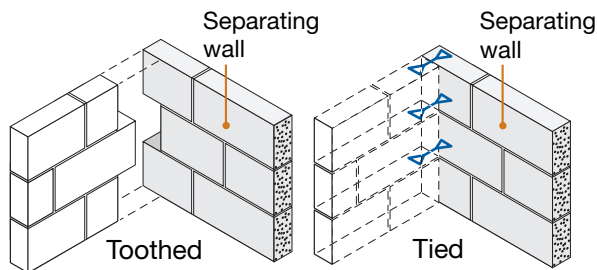
DO

- 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 insulation sections 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 'KI MPWS' is printed on the insulation material where 100mm Knauf Earthwool Masonry Party Wall Slab is specified; or 'Superglass Party Wall Roll' is printed on the insulation material where this is specified. Where URSA insulation is used, ensure it is branded with the URSA 'bear' logo

1. External (flanking) wall junction



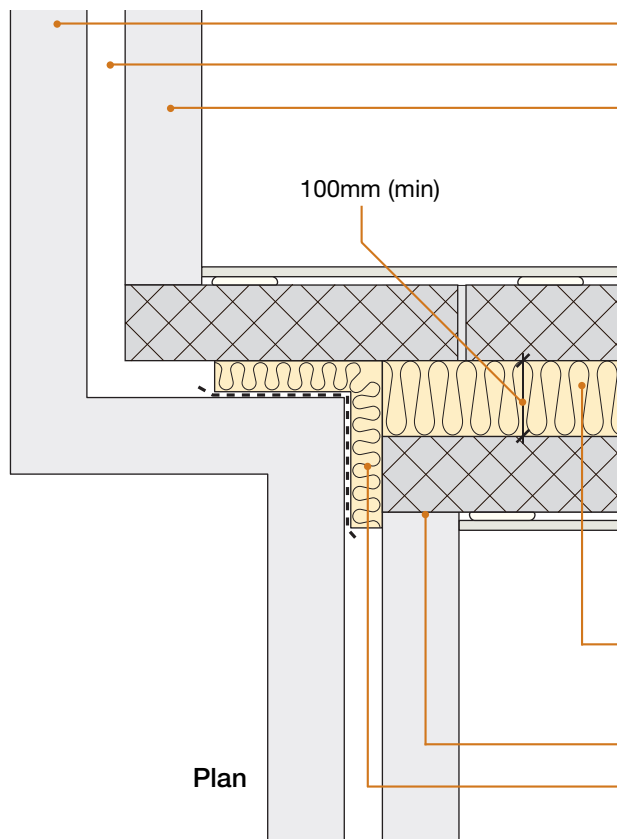
- Masonry outer leaf
- External wall cavity (min 50mm)
- Close external wall cavity with a flexible cavity stop. (Optional if external wall cavity is fully filled with built in mineral wool insulation)
- 100mm Knauf Earthwool Masonry Party Wall Slab or Superglass Party Wall Roll or URSA Cavity Batt 35 or URSA PARTY WALL 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) or Plasmor Aglite Ultima (1050 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 **robustdetails**[®] for floor, refer to Table 3a in introduction to select an acceptable **robustdetails**[®] separating floor. Then refer to separating floor Robust Detail to identify acceptable inner leaf construction or use Plasmor Aglite Ultima
 - if using floor requiring pre-completion testing, seek specialist advice

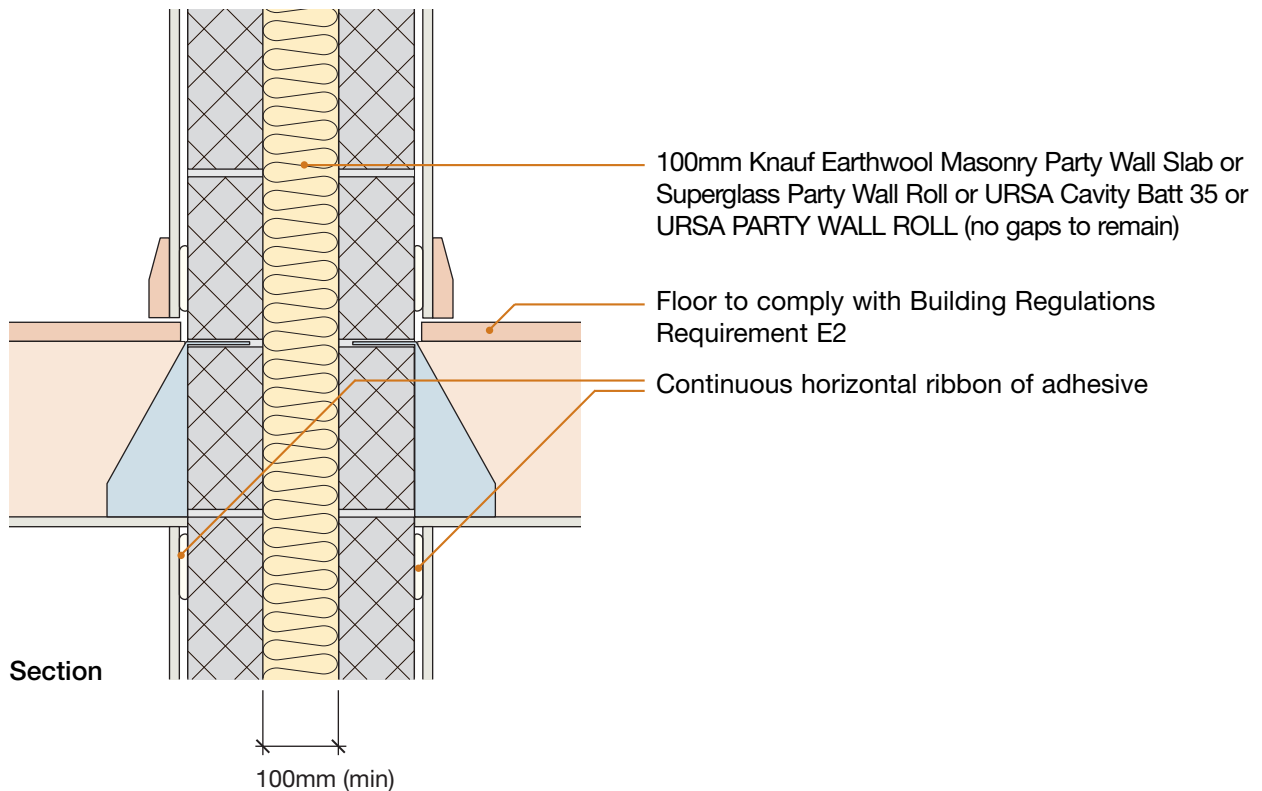
Tooth or tie walls together

2. Staggered external (flanking) wall junction

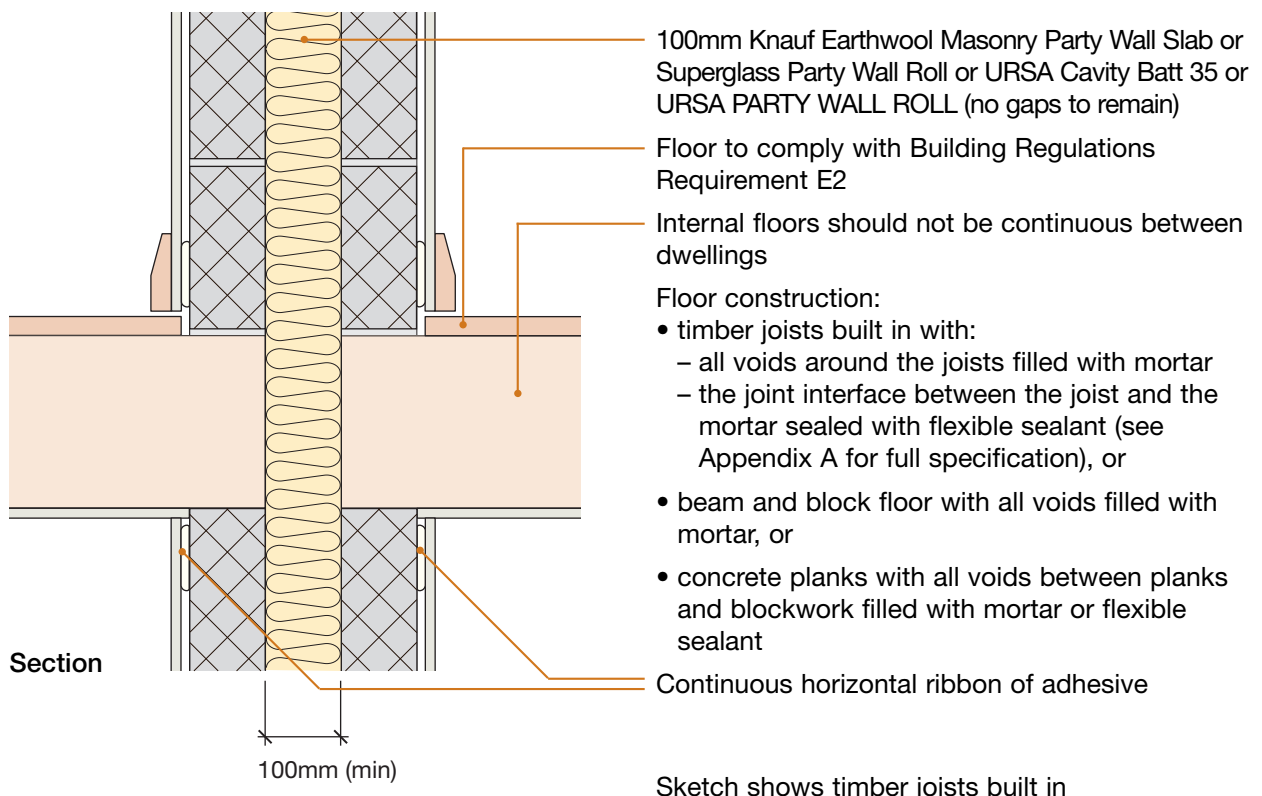


- Masonry outer leaf
- External wall cavity (min 50mm)
- Inner leaf where there is no separating floor e.g. for houses
 - 100mm (min) concrete block (1350 kg/m³ to 1600 kg/m³) or aircrete block (450 kg/m³ to 800 kg/m³) or Plasmor Aglite Ultima (1050 kg/m³)
 - internal finish – 13mm plaster or nominal 8 kg/m² gypsum-based board
- Inner leaf where there is a separating floor e.g. for flats/apartments
 - if using **robustdetails**[®] for floor, refer to Table 3a in introduction to select an acceptable **robustdetails**[®] separating floor. Then refer to separating floor Robust Detail to identify acceptable inner leaf construction or use Plasmor Aglite Ultima
 - if using floor requiring pre-completion testing, seek specialist advice
- 100mm Knauf Earthwool Masonry Party Wall Slab or Superglass Party Wall Roll or URSA Cavity Batt 35 or URSA PARTY WALL ROLL (no gaps to remain)
- 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)

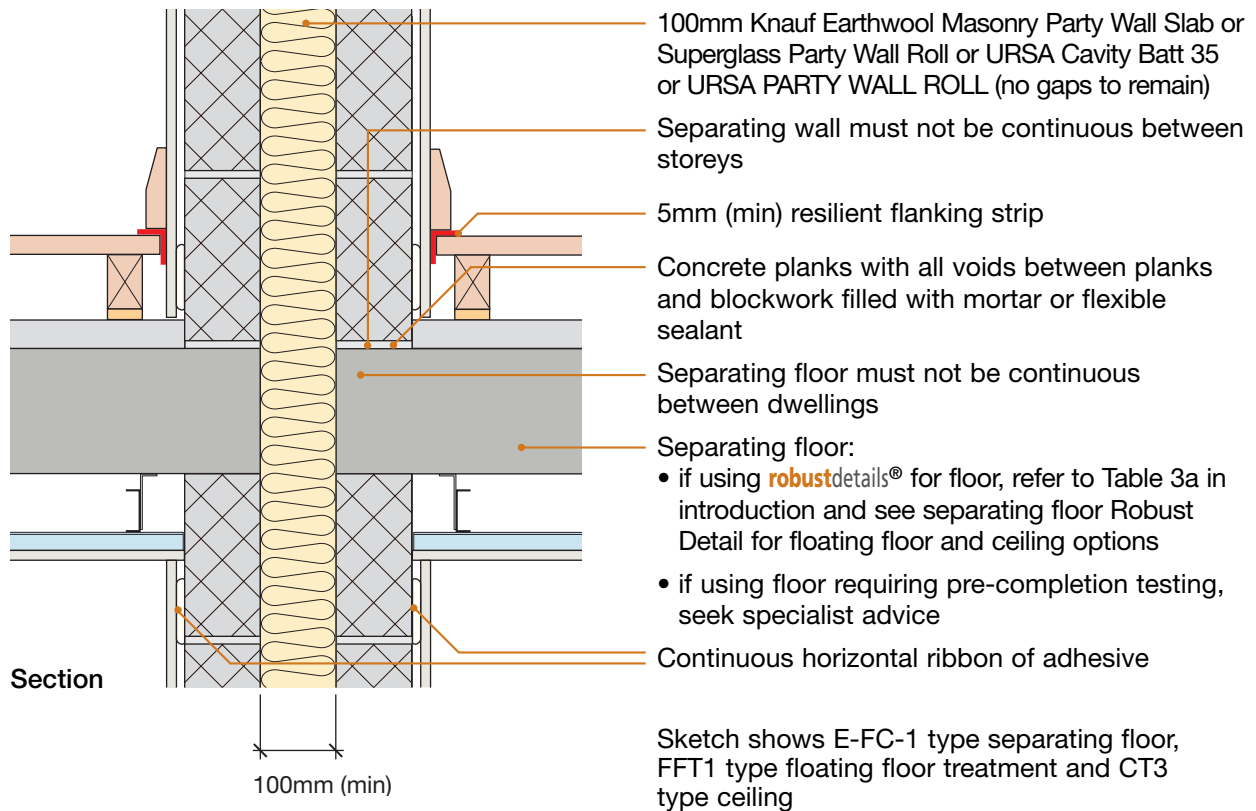
3. Internal floor junction: timber floor supported on joist hangers



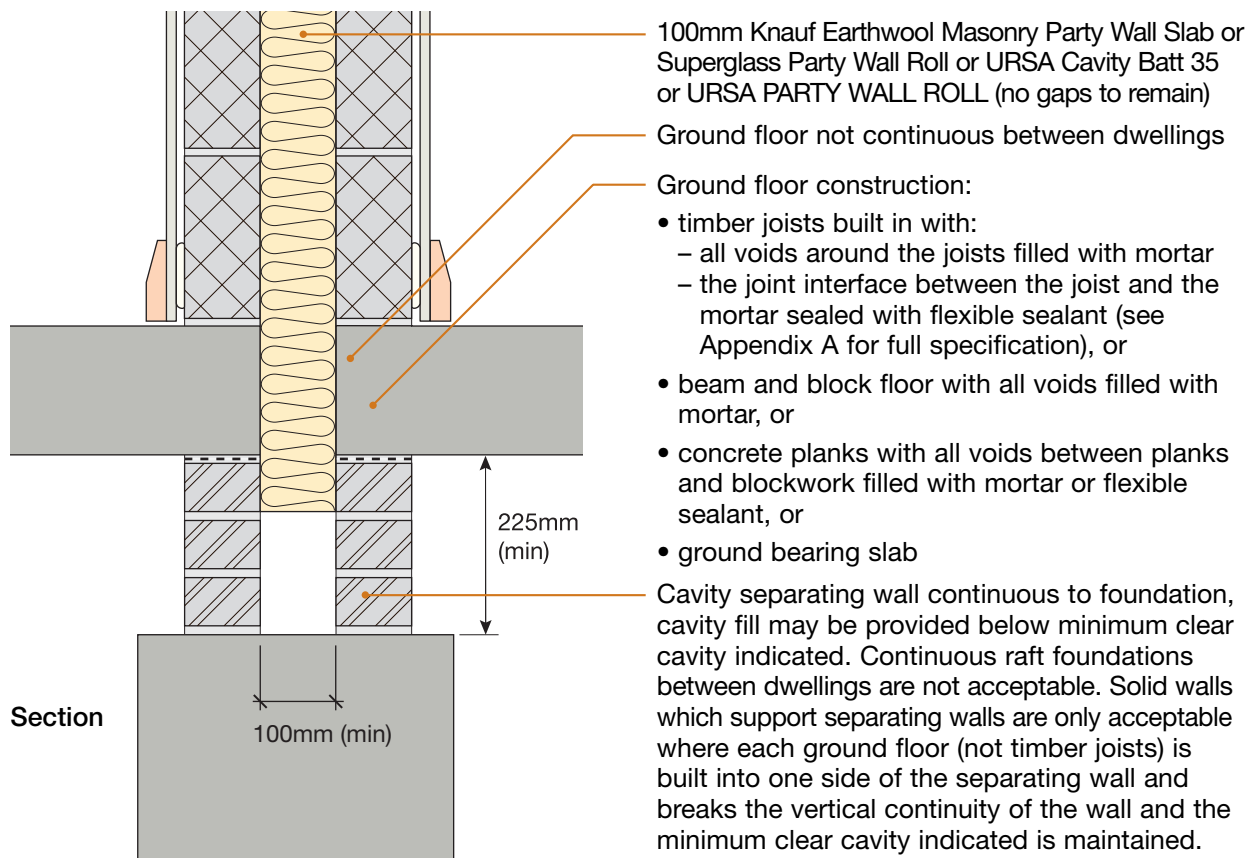
4. Internal floor junction: timber floor joists built in, beam and block or precast concrete



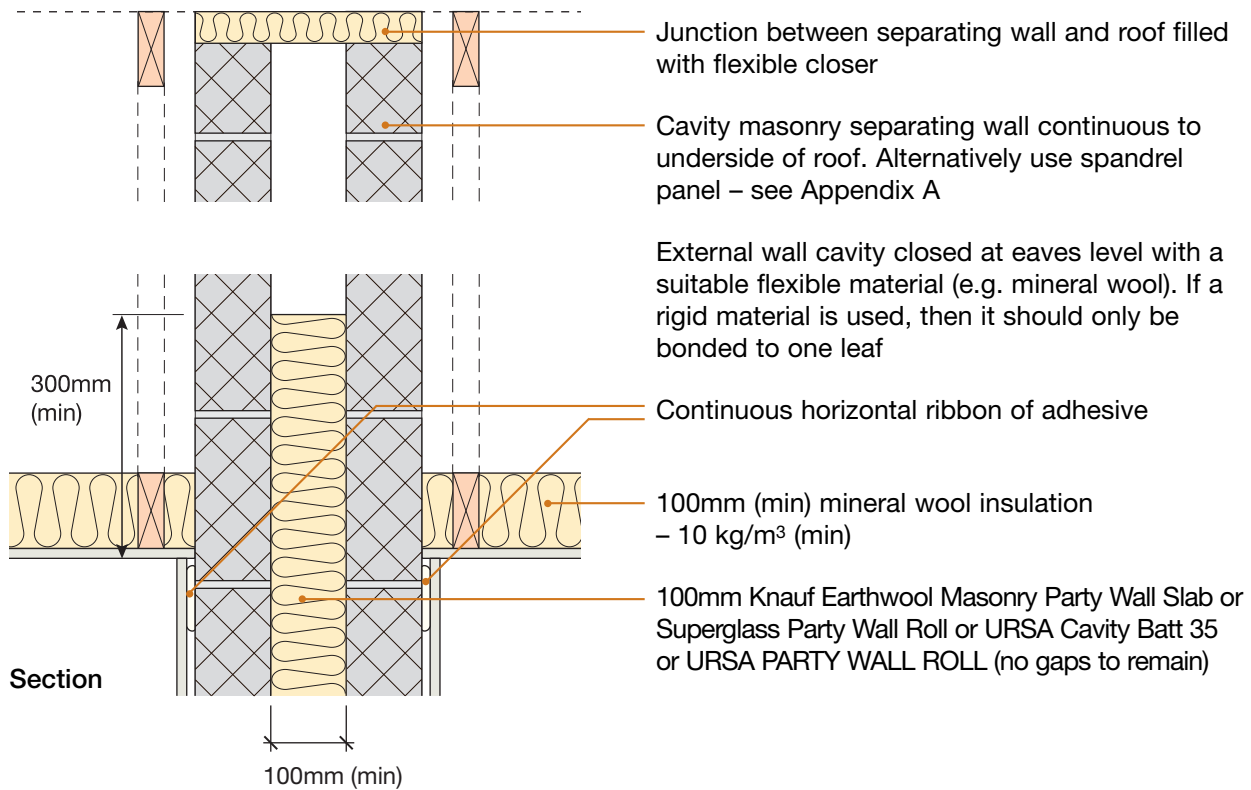
5. Separating floor junction



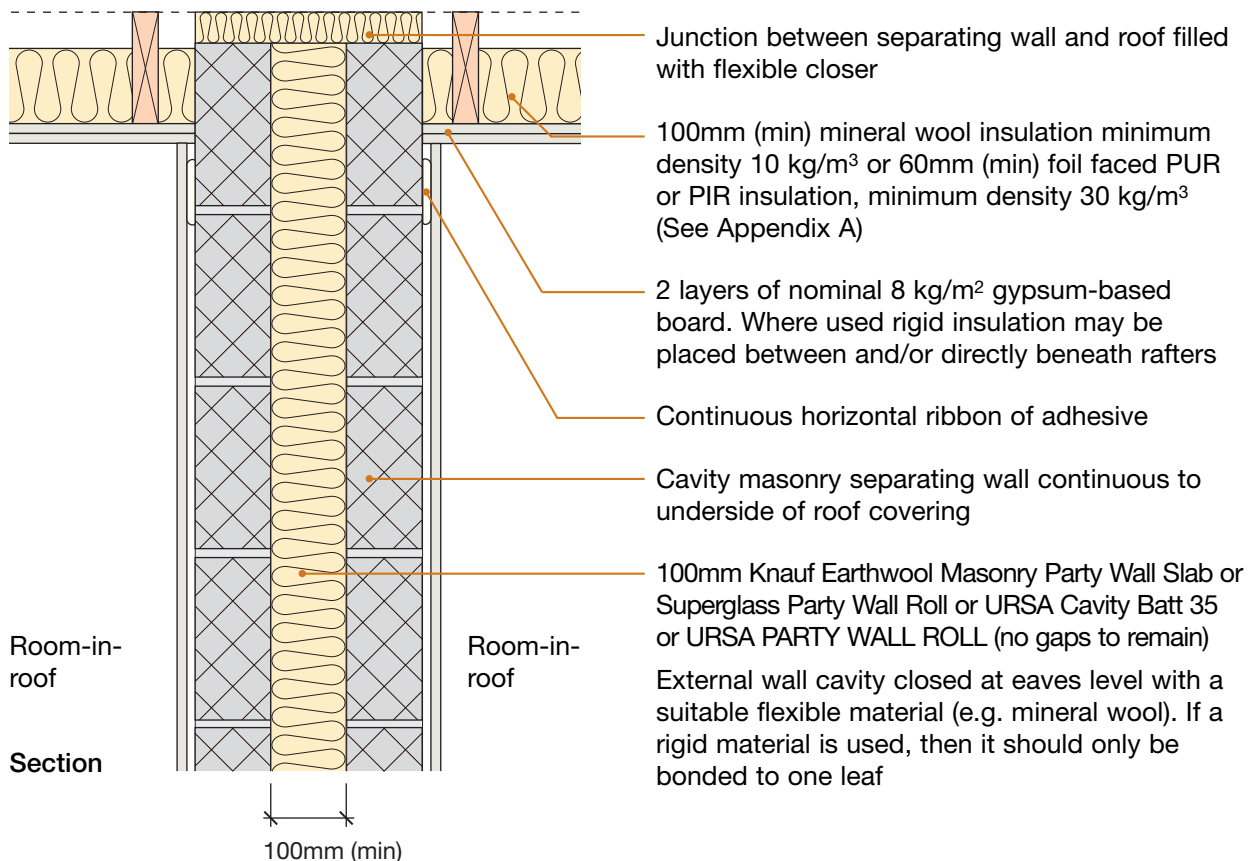
6. Ground floor junction: timber floor, beam and block, precast concrete plank, cast in-situ suspended concrete slab or ground bearing concrete slab



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



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



CHECKLIST (to be completed by site manager/supervisor)

Company: _____

Site: _____

Plot: _____ Site manager/supervisor: _____

Ref.	Item	Yes (✓)	No (✓)	Inspected (initials & date)
1.	Is separating wall cavity at least 100mm?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2.	Is external (flanking) wall cavity at least 50mm?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3.	Are separating wall blocks lightweight aggregate (1350 to 1600 kg/m ³) or Plasmor Aglite Ultima (1050 kg/m ³)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	Is cavity free from droppings and debris?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	Are separating wall ties to Approved Document E “Tie type A” (see Appendix A)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
6.	Are cavity stops installed where specified in the Robust Detail?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
7.	Are joints fully filled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
8.	Is 100mm Knauf Earthwool Masonry Party Wall Slab or Superglass Party Wall Roll or URSA Cavity Batt 35 or URSA PARTY WALL ROLL used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
9.	Are insulation sections tightly butted together?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
10.	Are voids around floor joists, chases, etc. fully filled/sealed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
11.	Where there is a separating floor (e.g. flats/apartments) has the resilient flanking strip been installed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
12.	Are all junctions of wall and ceiling boards sealed with tape or caulked with sealant?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
13.	Is separating wall satisfactorily complete?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Notes (include details of any corrective action)

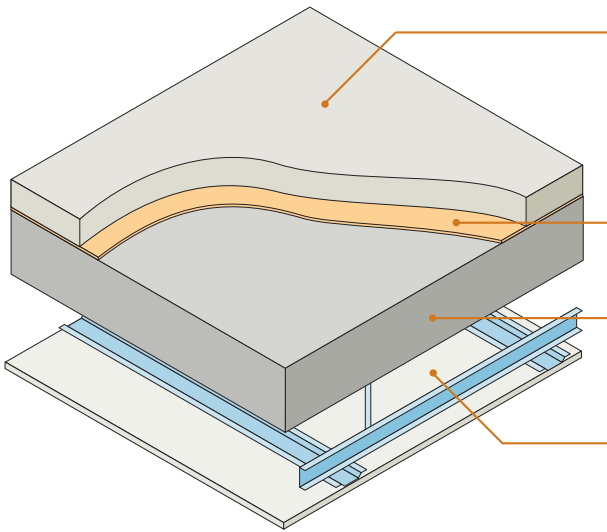
Site manager/supervisor signature

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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.

- Insitu concrete slab with flat soffit
- For use in reinforced concrete frame construction
- Screed laid on resilient layer system



Screed	65mm (min) cement:sand screed or 40mm (min) proprietary screed of nominal 80 kg/m ² mass per unit area
Resilient layer	See list below and section 7
Structural floor	225mm (min) insitu concrete floor slab, 2400 kg/m ³ (min) density without screed
Ceiling	Suspended metal frame ceiling system: 150mm (min) void, 1 layer nominal 10 kg/m ² gypsum-based board

Reinforced concrete frame construction - alternative external (flanking) wall construction

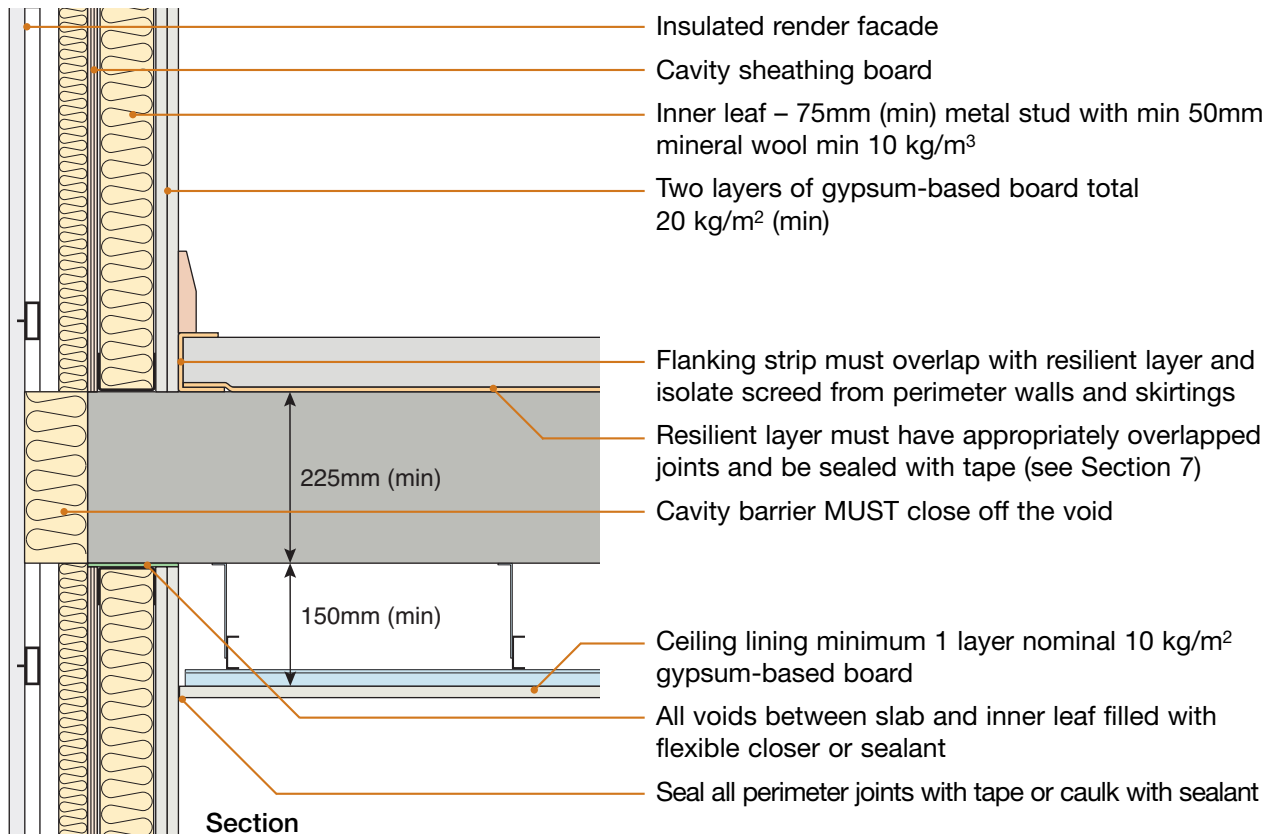
Storey height glazing units and external insulated cladding panels an acceptable alternative to the cavity walls illustrated:

- Glazing units should not be continuous between storeys
- Mullion or transom supports/framing should not be continuous between dwellings
- Refer to Appendix A

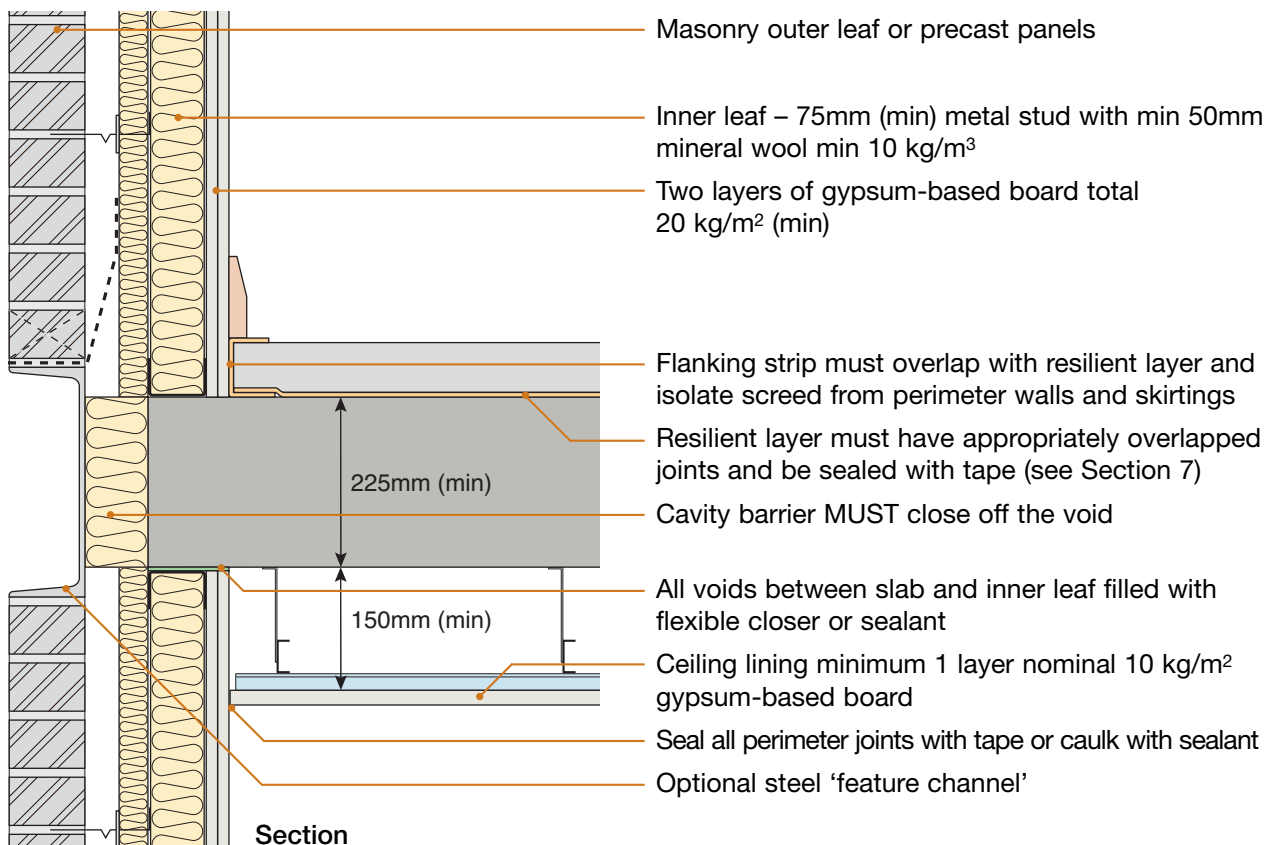
- Resilient layer systems**
- Only the following Resilient Layer systems may be used on E-FC-18 (see also Section 7):
- Thermal Economics 6mm Iso Rubber and IsoEdge
 - *Cellecta*® YELOfon® HD10+ and E-strip
 - Icopal-MONARFLOOR® TRANQUILT® system
 - Thermal Economics IsoRubber Base HP3 and IsoEdge
 - InstaCoustic InstaLay 65
 - Thermal Economics Iso Rubber Code and IsoEdge 6/260
 - Regupol Quietlay

- DO**
- Ensure resilient layer is laid over the entire floor surface and has overlapped joints appropriately sealed with tape (see Section 7). On no account should the screed come into contact with the floor slab. (See Section 7 for 40mm proprietary screeds)
 - Ensure resilient layer overlaps with flanking strip and is taped and sealed at joints. On no account should the screed come into contact with the floor slab or perimeter walls
 - Ensure the flanking strip isolates the skirting and wall linings. On no account should the screed come into contact with the wall lining and skirting
 - Make sure ceiling treatment is installed in accordance with the manufacturer's instructions (where applicable)
 - Refer to Appendix A

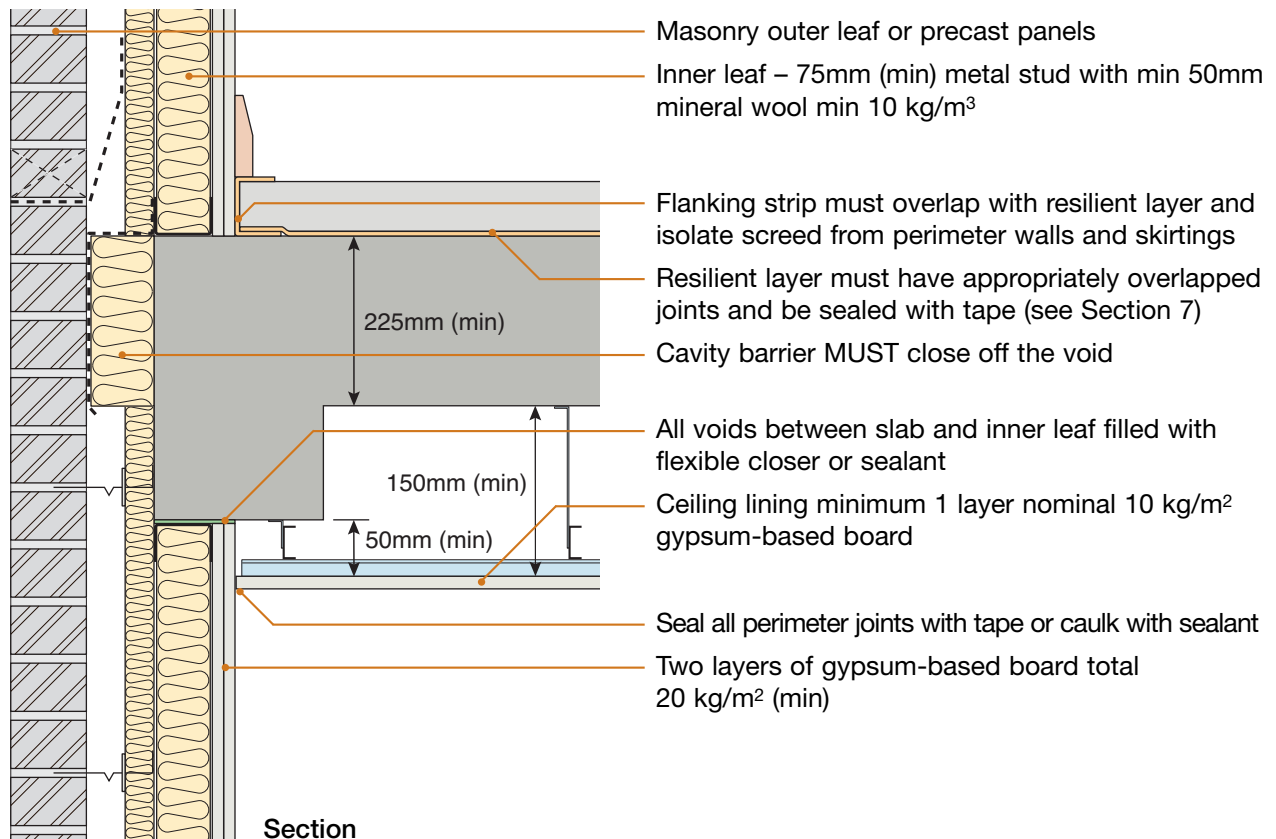
1. External (flanking) wall junction – insulated cladding



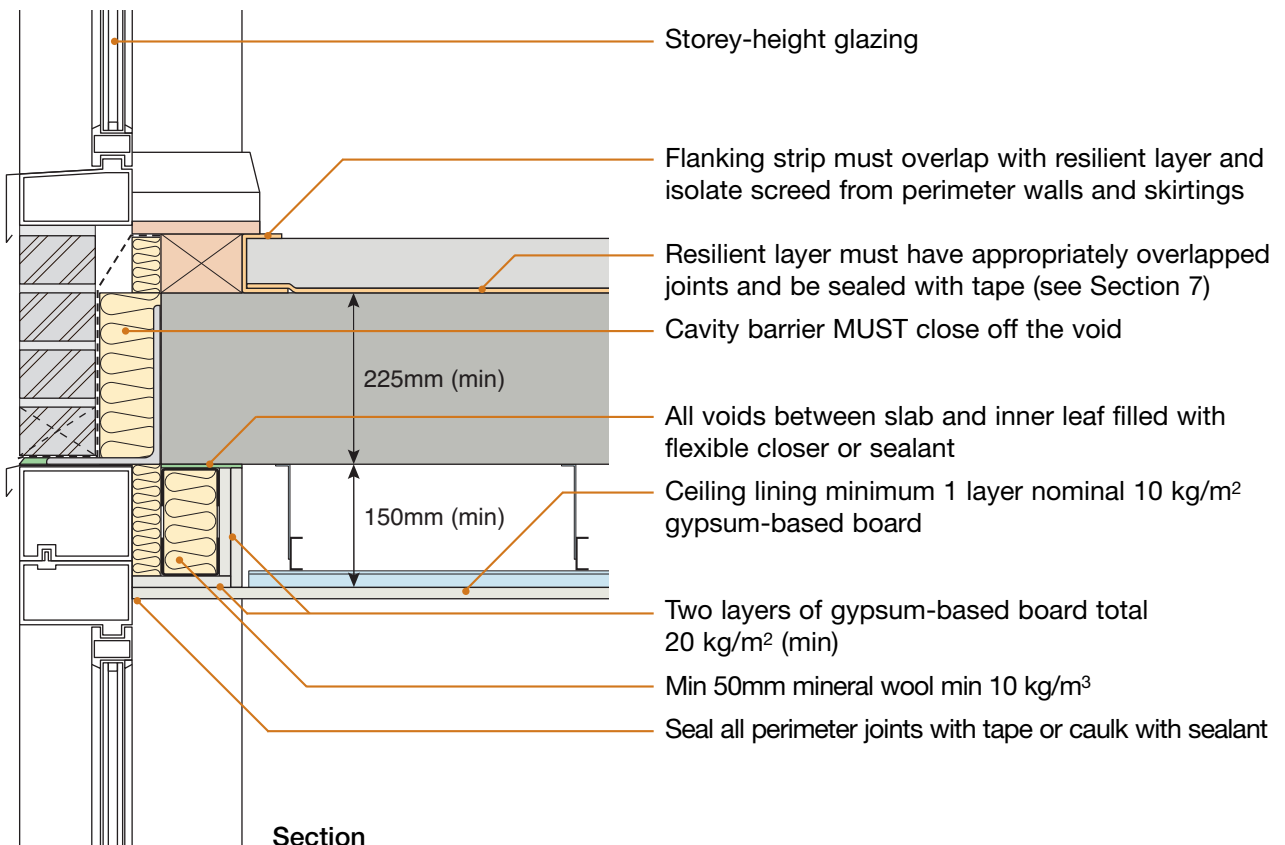
2. External (flanking) wall junction – masonry outer leaf



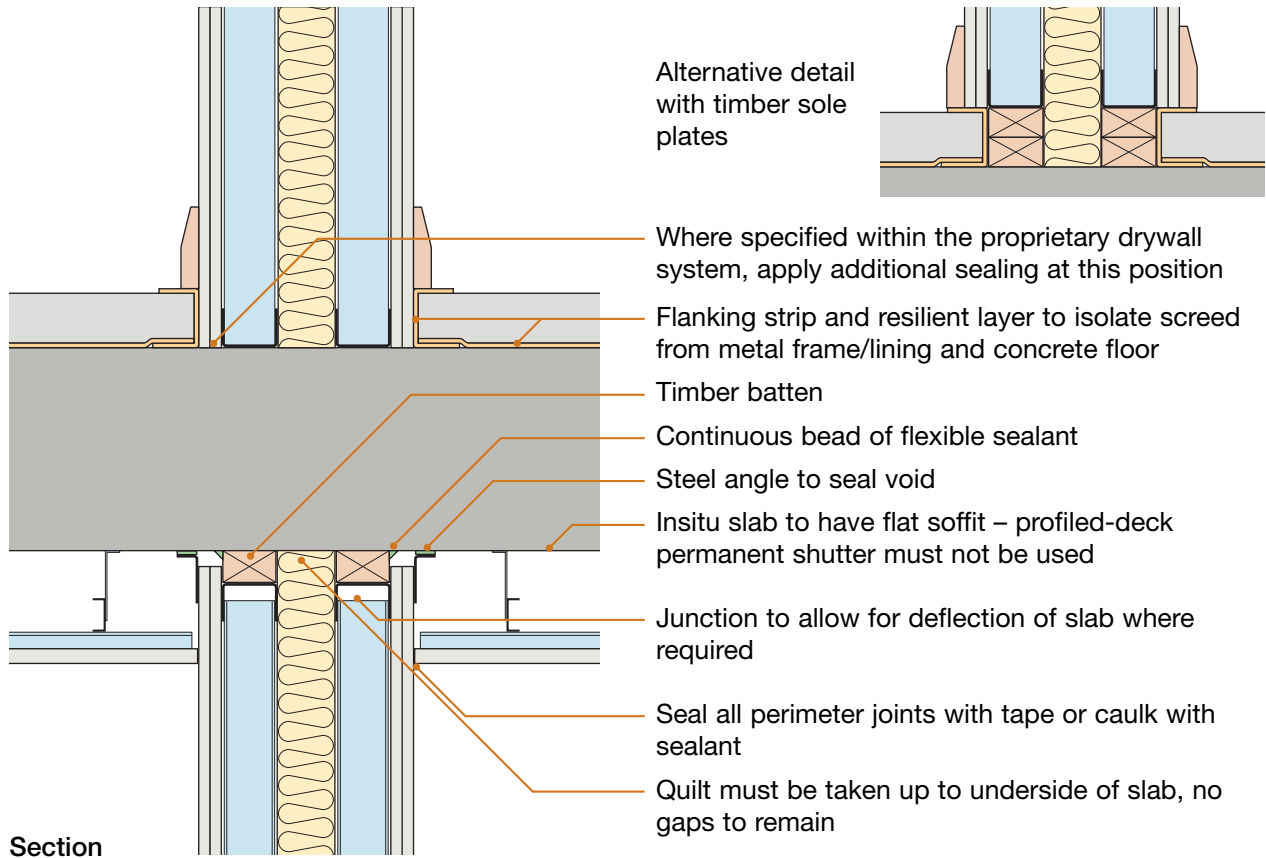
3. External (flanking) wall junction – with concrete downstand beam



4. External (flanking) wall junction – storey-height glazing

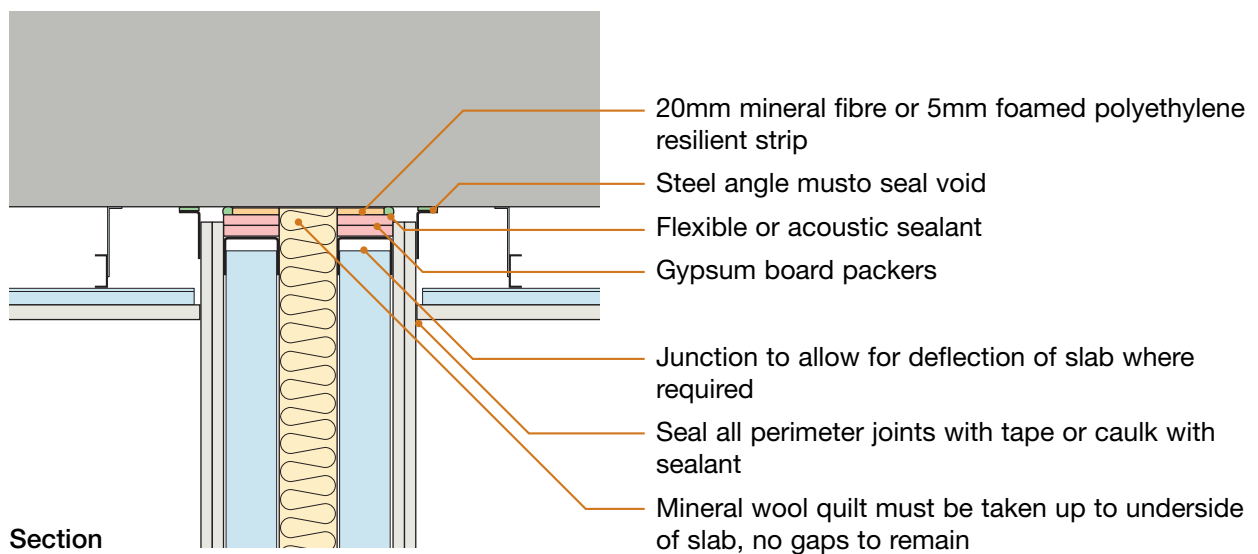


5. Separating wall junction

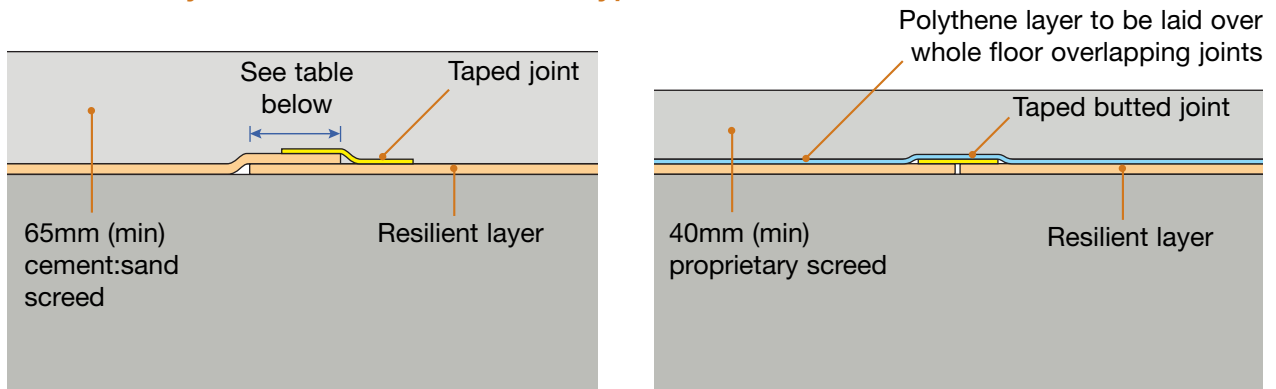


An alternative deflection head detail is shown below

6. Slab junction (with alternative deflection head detail)



7. Resilient layer installation and screed types



Resilient layer system	Minimum overlap	Jointing method
Thermal Economics 6mm Iso Rubber & IsoEdge	50mm	Generic tape
Collecta® YELOfon® HD10+ and E-strip	150mm	J-strip
Icopal-MONARFLOOR® TRANQUILT® system	Integrated	Monarfloor Acoustic Adhesive
Thermal Economics IsoRubber Base HP3 & IsoEdge	50mm	Generic tape
InstaCoustic InstaLay 65	50mm	Generic tape
Thermal Economics Iso Rubber Code & IsoEdge 6/260	50mm	Generic tape
Regupol Quietlay	50mm	Regupol tape

8. Ceiling treatments for E-FC-18

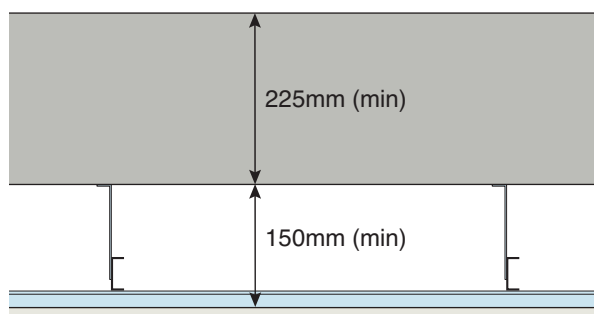
Ceiling treatments must be installed in accordance with the manufacturer’s instructions.

All ceiling joints must be sealed with tape or caulked with sealant.

If used, the maximum load on resilient bars shall not exceed that specified in the manufacturer’s instructions.

Note: the sound insulation performance of ceiling treatments 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 150mm downlighters or recessed lighting may be installed in the ceiling:

- in accordance with the manufacturer’s instructions
- into openings not exceeding 100mm diameter or 100x100mm

Particular attention should also be paid to Building Regulations Part B - Fire Safety

Any ceiling system – 150mm (min) void

- any timber or metal ceiling system providing 150mm (min) ceiling void
- one layer of nominal 10 kg/m² gypsum-based board

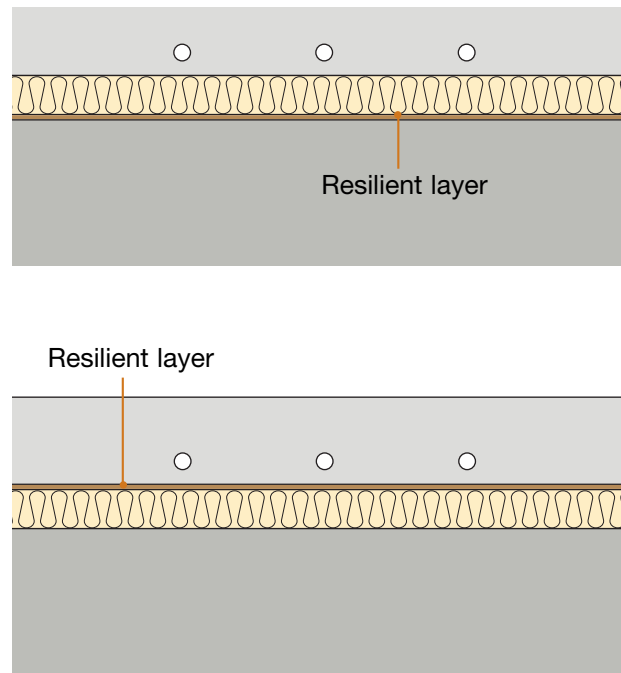
9. Underfloor heating systems within screeds

Underfloor heating systems (including connectors and fixings) installed within the screed must not penetrate the resilient layer or bridge the screed to the slab.

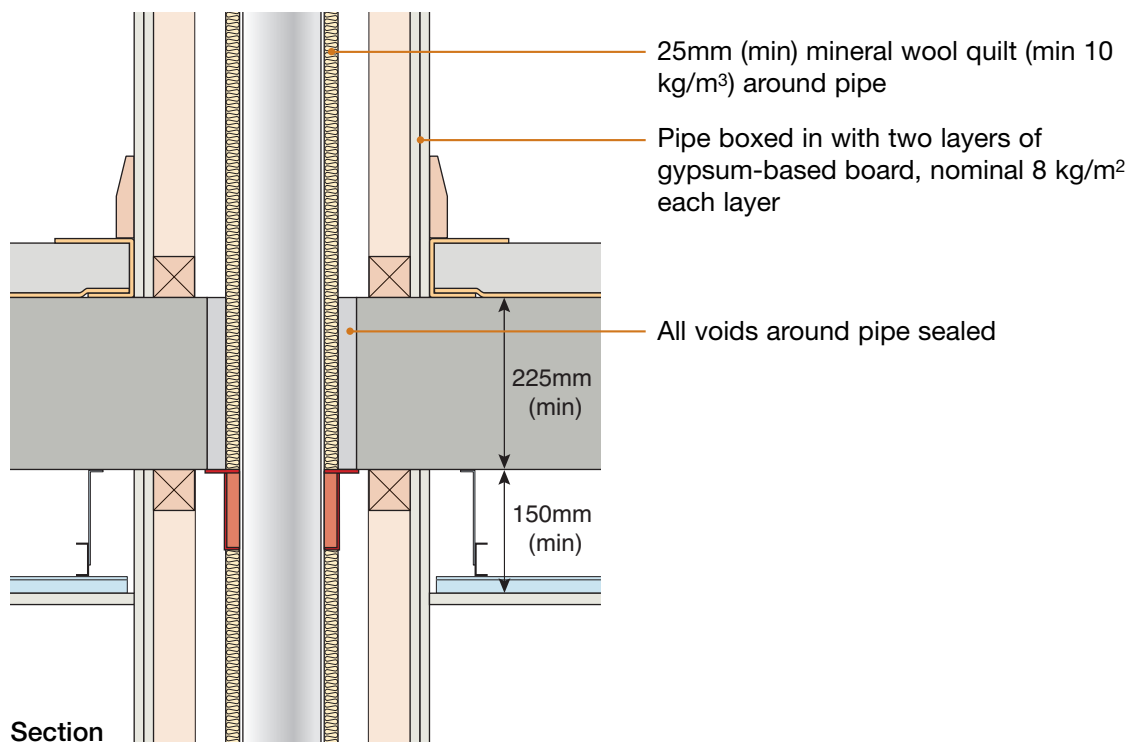
Underfloor heating systems which have a supporting layer/board may be laid on top of the resilient layer.

An insulation layer may be positioned on top of, or beneath, the resilient layer.

Appropriate screed depth cover to the heating system must be designed for – contact underfloor heating manufacturer for guidance.



10. Services – service pipes through separating floor



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See overleaf for checklist

CHECKLIST (to be completed by site manager/supervisor)

Company: _____

Site: _____

Plot: _____ Site manager/supervisor: _____

Ref.	Item	Yes (✓)	No (✓)	Inspected (initials & date)
1.	Is concrete slab 225mm (min) thick?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2.	Is concrete slab density 2400 kg/m ³ (min)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3.	Is inner leaf discontinuous (or broken) between storeys?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	If used, are glazing units or cladding panels discontinuous (or broken) between storeys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	Has ceiling system been installed in accordance with the manufacturer's instructions (where applicable)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
6.	Is there a minimum ceiling void of 150mm?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
7.	Are all ceiling board joints sealed with tape or caulked with sealant?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
8.	Has resilient floor treatment been installed in accordance with the manufacturer's instructions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
9.	Have all resilient flanking strips been fitted?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
10.	Are service pipes wrapped in quilt and boxed in with two layers of gypsum-based board, nominal 8 kg/m ² each layer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
11.	Is separating floor satisfactorily complete?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Notes (include details of any corrective action)

Site manager/supervisor signature

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Appendix A1 – Additional Guidance

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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.

Approved Document E clause 2.19 describes the requirements for Tie Type A (separating walls) as follows:

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_{xmm} in MN/m with a cavity width of X mm and n ties/m² is $n.k_{xmm} < 4.8$ 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

In relation to the wall tie requirements for external walls tie “Type A” may be used if it satisfies the requirements of Building Regulation Part A – Structure. However, where tie “Type A” does not meet these requirements for external walls tie “type B” wall ties should be used.

Approved Document E clause 2.20 describes the requirements for Tie Type B (external walls) as follows:

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_{xmm} in MN/m with a cavity width of X mm and n ties/m² is $n.k_{xmm} < 113$ MN/m³.

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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).

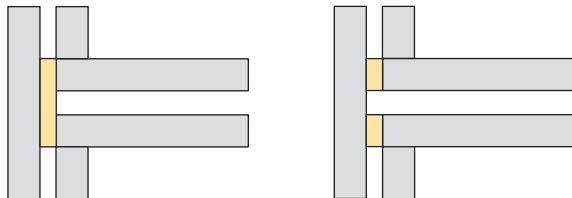


Diagram a

Diagram b

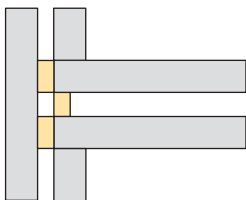


Diagram c

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 (not for masonry separating walls)
- single rigid cavity stop attached to one leaf of the separating wall only (not for masonry separating walls)
- 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.

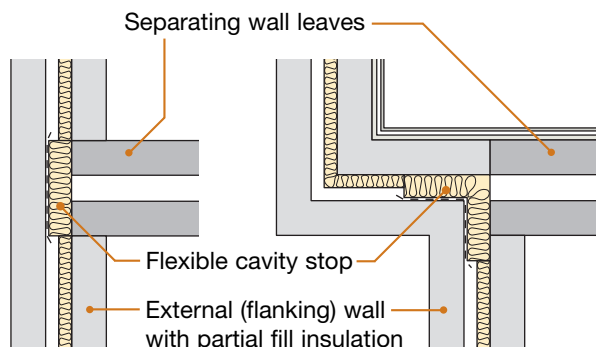


Diagram d

Partial fill insulation should be installed up to the cavity stop.

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:

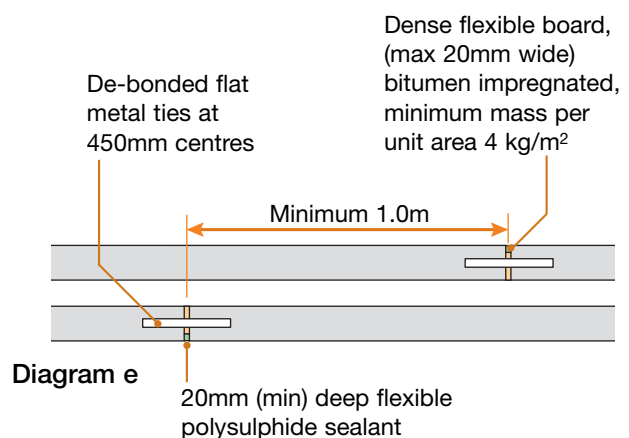


Diagram e

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

Separating walls with wet plaster finish

Movement joints are not acceptable in **robustdetails**[®] separating walls with a wet plaster finish unless they are strategically placed behind internal wall junctions or service pipe casings.

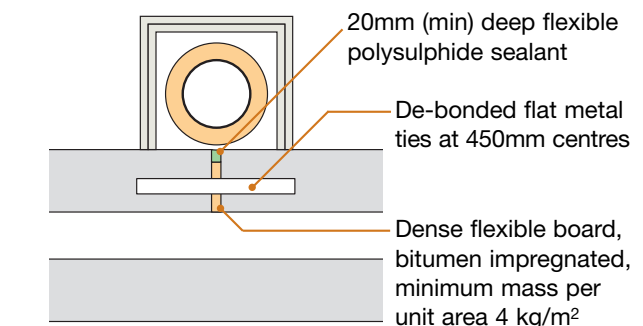


Diagram f

The movement joints must also be staggered and spaced not less than 1m apart, as shown in Diagram d above.

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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

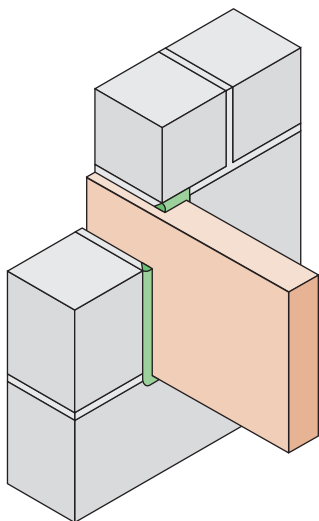
Internal floor joists at right angles to the separating wall may be supported by metal joist hangers or be built into the wall.

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.



Alternatively, proprietary joist caps/ends designed to satisfy the air leakage requirements of Approved Document L1 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.

Metal web joists

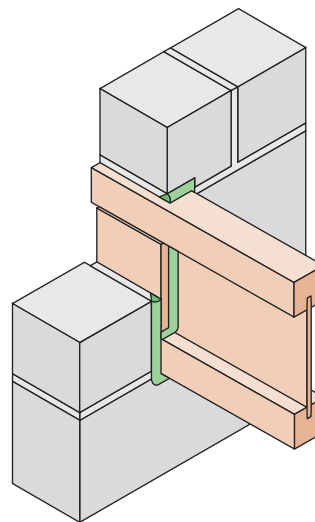
Metal web joists may be built into the separating wall following the guidance for solid timber joists above. Metal web joists must have solid ends.

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 the air leakage requirements of Approved Document L1 may be used. They should be

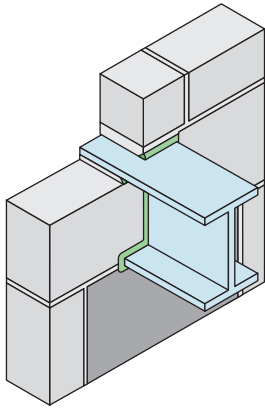


installed in accordance with the manufacturer's instructions. In circumstances where the joist end cap is larger than the depth of the joist, such that there is a gap between the top of the joist and the joist end cap, this should be filled with mineral wool or other suitable material such that the acoustic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

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Steel beams

Steel beams may be built into the leaf of a cavity 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

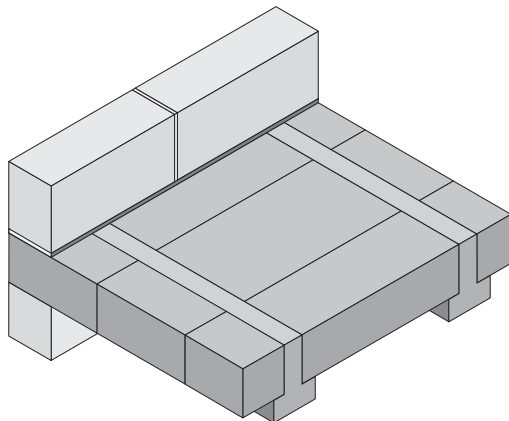
Steel columns built into masonry separating walls are not permitted.

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.



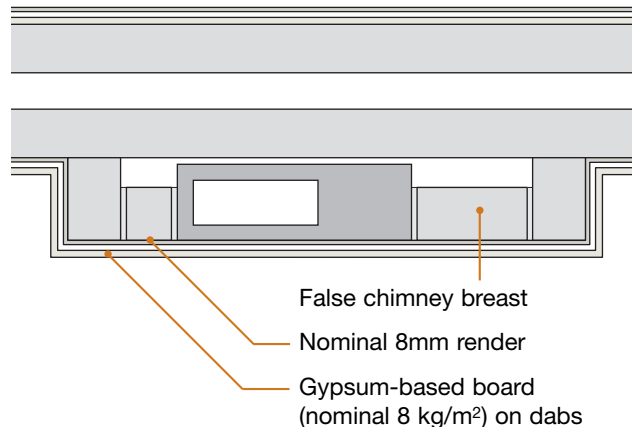
Coursing in blockwork separating walls

For the purposes of adjusting coursing it is permissible to use smaller units of **robustdetails**[®] separating wall material (e.g. brick sized), provided the density of the smaller units is at least the same as the separating wall material.

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 Details.

Any of the **robustdetails**[®] 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.

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Spandrel panels

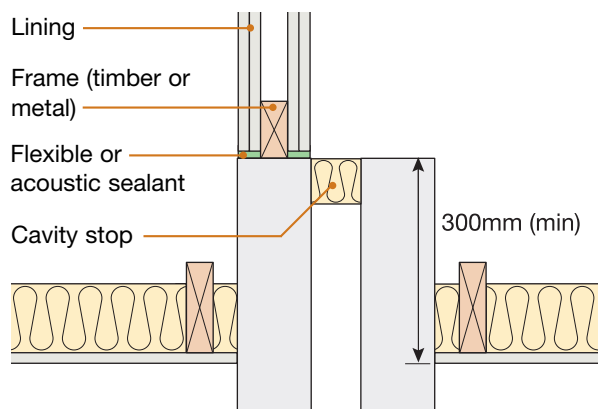
Where stated in the Robust Detail spandrel panels are an acceptable alternative to building the cavity separating wall in the roof space (without room-in-roof).

When adopting spandrel panels particular attention should be paid to Building Regulations Part B - *Fire Safety*, 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 a minimum 50mm cavity is maintained between the opposing sheathing faces, or to the stud frame where no sheathing is fitted.

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

Services and chases in separating walls

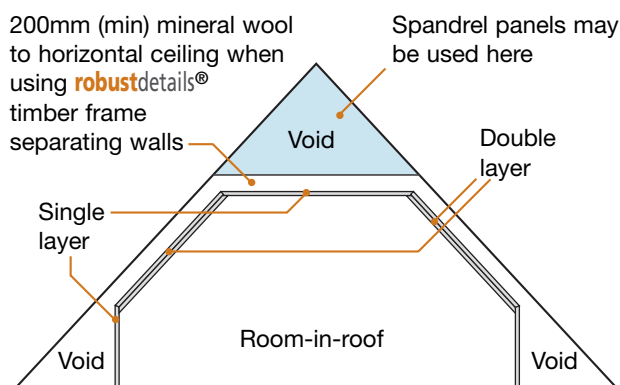
Where possible, services should not be built into the separating wall.

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 – requirements for gypsum-based boards

Room-in-roof constructions are permitted only where stated in the Robust Detail. 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.



Section through room-in-roof

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.

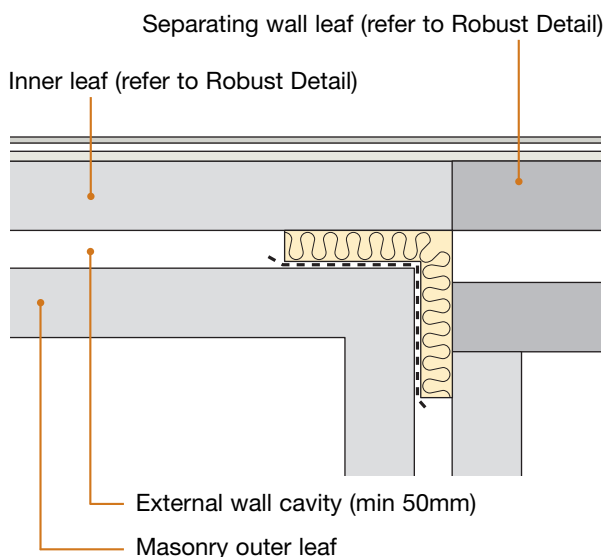
Thermal laminate boards may be used as the wall finish to masonry walls, provided the nominal mass per unit area indicated in the Robust Detail is maintained - seek advice from the manufacturer.

An acceptable alternative to caulking or sealing the joint between the wall and the ceiling is to use gypsum coving.

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

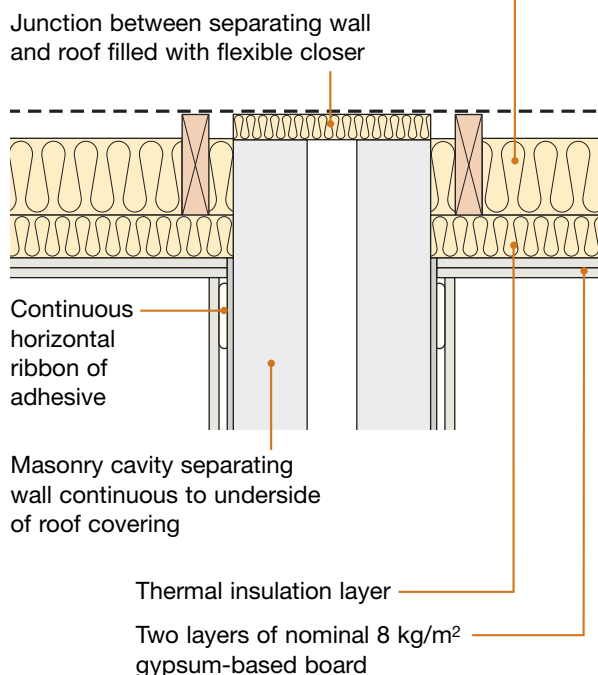
As an alternative to the junction shown in the Robust Detail, it is acceptable for the inner leaf blockwork to extend to the inner face of the external wall cavity, as shown below.



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



Building Regulations Part A (2004) – 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 Part A, 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 120kg/m² (including the finish) OR at least that of the approved flanking wall inner leaf, if this is less.

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- 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
- 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 Part E 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

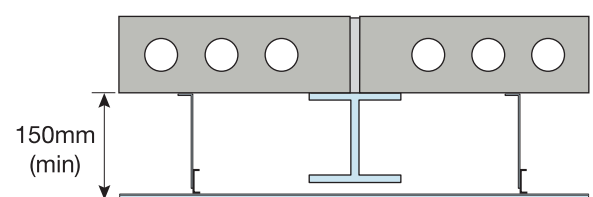
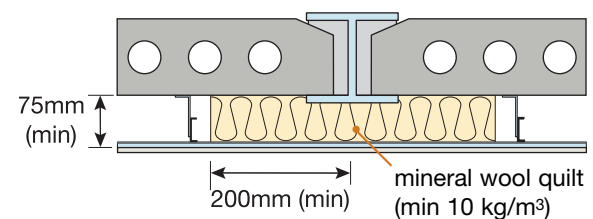
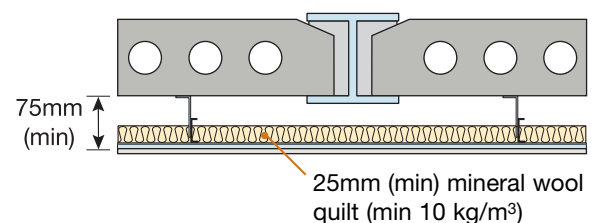
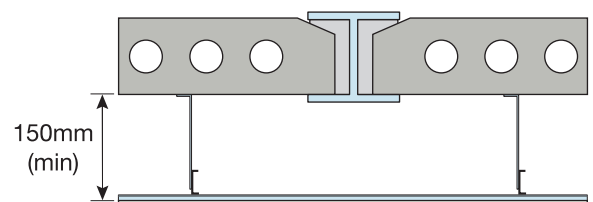
The screed thickness stated is the minimum thickness at any point and a greater thickness should be specified to take account of deviations in the finished levels of the surfaces of bases and any reinforcement provided.

Cement:sand screed should be at least 50mm to comply with BS 8204. Concrete screed is acceptable.

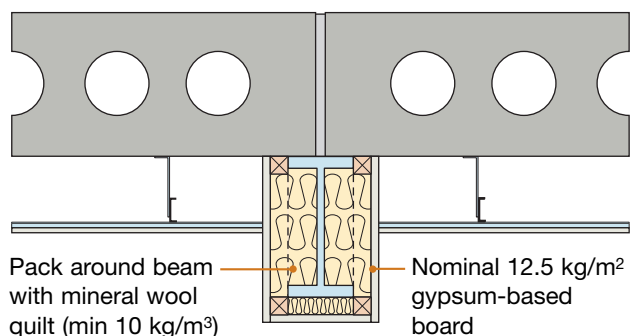
Precast concrete plank separating floors with steel beams

In some situations precast concrete planks may require intermediate support by steel beams supported on masonry.

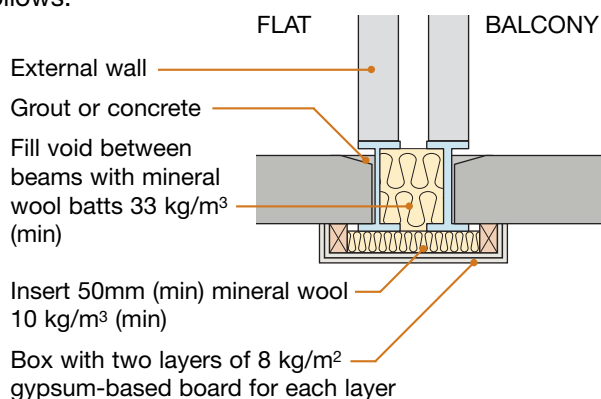
- cavity masonry separating walls must not be built off steel beams – where necessary, external cavity walls may be built off steel beams
- all voids between the steel beam and the slabs should be fully filled with grout or concrete, and
- the supports for the ceiling treatment and the ceiling lining 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



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An alternative detail where two steel beams are required to support the external cavity wall is as follows:



Separating walls should not be constructed off steel beams.

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 Regulation Part B – Fire Safety.

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 Regulations Part B – Fire Safety. Secondary ceilings to timber floors may also be supported by perimeter channels.

Underfloor heating (UFH) systems in separating floors

With timber floating floor treatments

UFH may be fitted between the battens of FFT1, FFT2 and FFT3; or underneath FFT4 or FFT5. UFH may only be incorporated within FFT4 or FFT5 provided the complete build-up, using all intended components, has been tested to Appendix D.

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

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boards 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 **robustdetails**[®] 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 **robustdetails**[®] 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.

The floating floor treatment must cover all areas where footfall may occur.

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 Part E 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 Part E 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

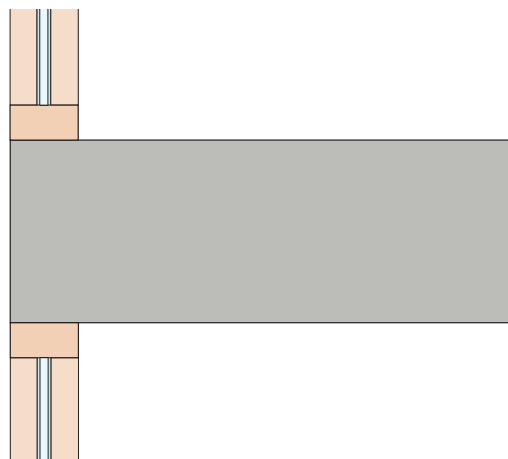
Where screeds are separated from the core floor by resilient layers the screed must be fully isolated from the floor slabs, perimeter walls and skirtings and must not come into direct contact with these areas. The resilient layer(s) should completely cover the core floor surface including into doorways and reveals 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 **robustdetails**[®] 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 **robustdetails**[®] 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 **robustdetails**[®] timber or steel frame separating floors would not be affected if lifting holes within the sub-deck remain untreated, provided:

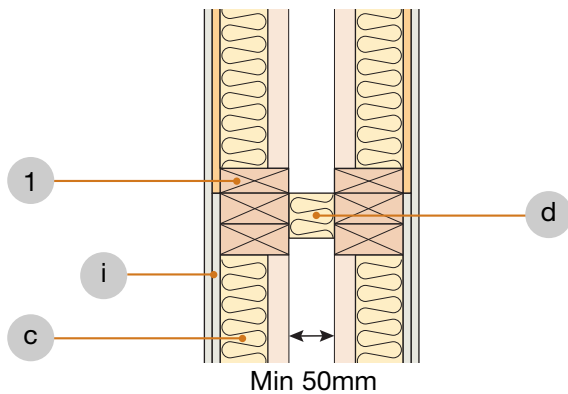
- each lifting hole is no larger than 120mm in diameter
- mineral wool quilt, of the appropriate specification as indicated in the relevant separating floor specification, is provided covering the whole area of the floor, between the joists/battens, in both the structural floor void and the floating 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.

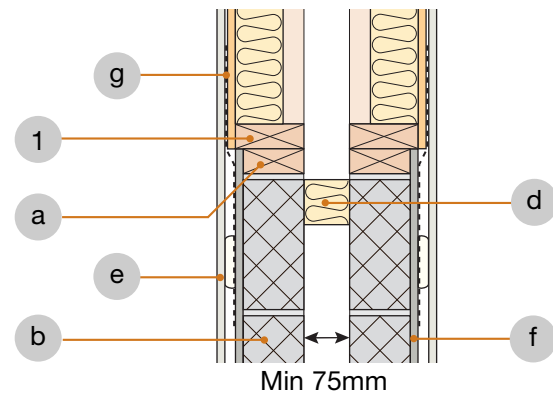
Appendix A2 – Proprietary Flanking Conditions

RoofSpace I-Roof™ “room-in-roof” panel system using robustdetails® timber or masonry cavity walls. Refer to Table 6 in Introduction.

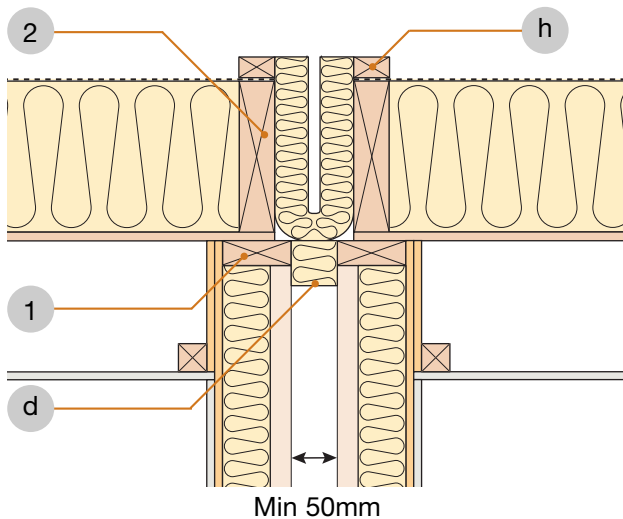
1. Room-in-roof junction with timber frame cavity walls



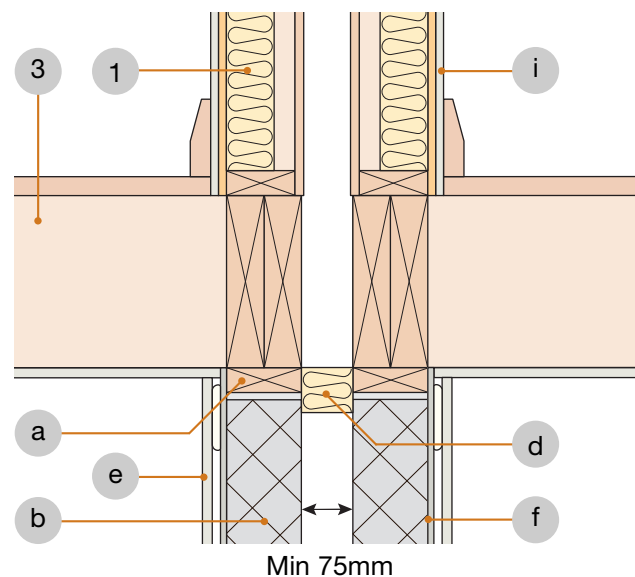
2. Room-in-roof junction with masonry cavity walls



3. Separating wall – roof junction



4. Internal floor cassette junction option



Key

- 1 RoofSpace I-Roof™ spandrel panel.
- 2 RoofSpace I-Roof™ roof panel.
- 3 RoofSpace internal floor cassette.
- a Timber wall plate bedded on 10mm mortar bed to take out unevenness in blockwork.
- b Minimum 100mm blockwork.
- c Timber frame separating wall leaf.
- d Cavity closer.
- e Gypsum-based board dependent on Robust Detail being used.
- f Nominal 8mm render coat (refer to relevant robustdetails® separating wall).
- g Vertical metal straps at 1200mm centres if required.
- h 25 x 38mm counterbatten.
- i 2 layers gypsum-based board total nominal 22 kg/m².

Contact details for SIG RoofSpace:

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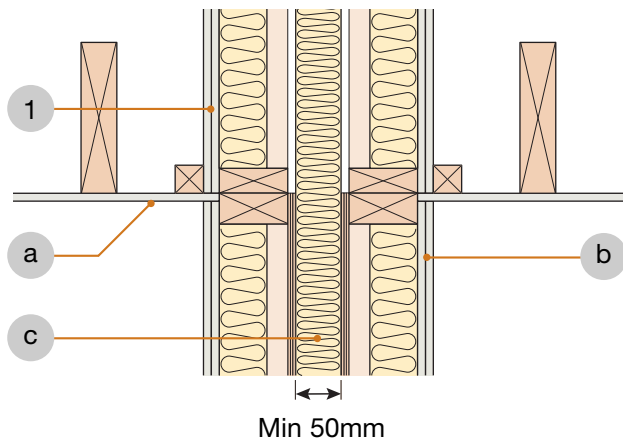
E-mail: technical@sigroofspace.co.uk

Web: www.sigroofspace.co.uk

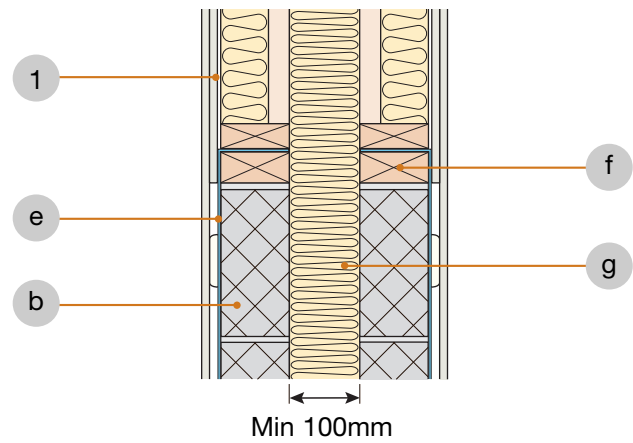
Appendix A2 – Proprietary Flanking Conditions

Space4 “room-in-roof” panel system using **robustdetails**[®] timber or masonry cavity walls. Refer to Table 6 in Introduction.

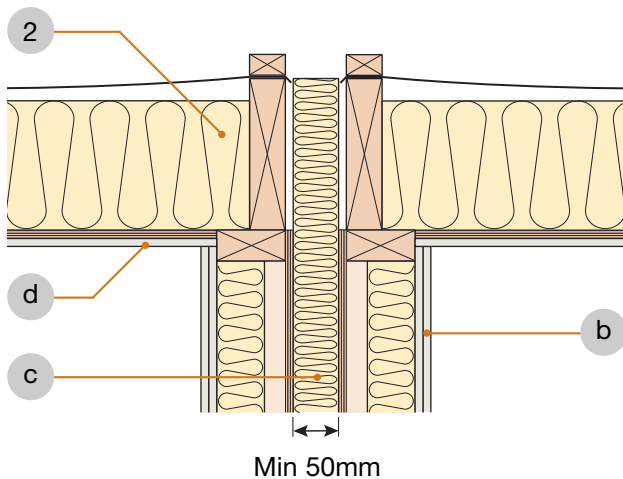
1. Non room-in-roof spandrel panel to timber separating wall junction



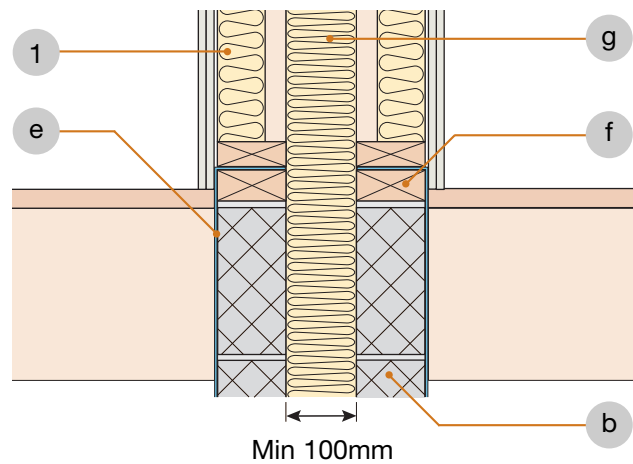
2. Spandrel panel to masonry separating wall junction



3. Roof cassette to timber separating wall junction for room-in-roof



4. Internal floor junction for room-in-roof



Key

1 Space4 spandrel panel.

2 Space4 roof cassette.

a Minimum 1 layer nominal 8 kg/m² gypsum-based board to ceiling.

b **robustdetails**[®] separating wall.

c Mineral wool 18-40 kg/m³.

d OSB underdraw overlaid with minimum 1 layer nominal 15 kg/m² gypsum-based board to ceiling.

e Vertical metal straps at 1200mm centres if required.

f Wall plate fully bedded on mortar with no gaps.

g Mineral wool 12-25 kg/m³.

Contact details for Space4:

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