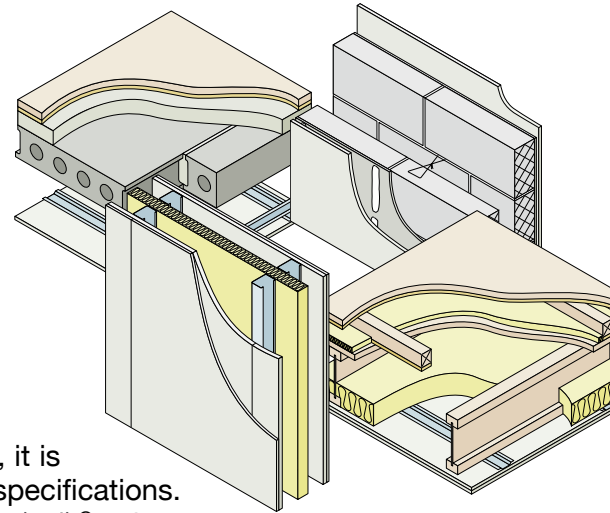


September 2023 Update Pack



Dear Colleague,

Thank you for downloading this September 2023 update.

As the Isover RD35 insulation is no longer being manufactured, it is not possible to build to the E-WM-8, E-WM-14 and E-WM-15 specifications. Therefore, these wall types have been withdrawn from the **robust**details® scheme and can no longer be selected for registrations. Alternative Saint-Gobain Isover compatible patterns have been recommended on each detail cover sheet.

Following a rebranding exercise by the supplier, the “H+H - Celcon Elements” wall in E-WM-31 has now been renamed “Celcon Vertical Wall Panels”. Both the material and installation process are unchanged. Just to add that any sites building-out H+H - Celcon Elements material will continue to be compliant with the **robust**details® requirements.

E-WS-6 now has been enhanced to allow for a stone wool external wall treatment option, as well as an alternative Fermacell spandrel panel lining.

And finally within Appendix A2 the Smartroof systems gypsum-based board overlap has been reduced from 300mm to 100mm (min).

Please update your July 2022, 4th Edition Handbook as follows:

1. Remove and replace **pages 3-10** of the Introduction.
2. Remove and replace **single page** of E-WM-7.
3. Remove and replace **all pages** of E-WM-8.
4. Remove and replace **all pages** of E-WM-14.
5. Remove and replace **all pages** of E-WM-15.
6. Remove and replace **all pages** of E-WM-31.
7. Remove and replace **pages 1/2 and 5/6** of E-WS-6.
8. Remove and replace **pages 1-4** of Appendix A2.
9. Remove and replace **all pages** of Appendix B.
10. Remove and replace **all pages** of Appendix G.

Yours sincerely

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

John Thompson

Chief Executive,
Robust Details Limited



Changes to the fourth edition following September 2023 update

Section	Page	Amendment
Introduction		
Table 1	3	E-WM-8, E-WM-14 and E-WM-15 suspended from further registrations. E-WM-31 updated to H+H - Celcon Vertical Wall Panels. E-WM-34 finish amended to gypsum-based board.
Table 3a	6	E-WM-8, E-WM-14 and E-WM-15 removed
Table 4	8	E-WM-8, E-WM-14 and E-WM-15 removed
Table 6a	9	E-WM-8, E-WM-14 and E-WM-15 removed

Separating Wall – Masonry

E-WM-7

- | | |
|---|--|
| 1 | CFSH reference omitted and telephone update. |
|---|--|

E-WM-8

Notification that E-WM-8 has now been removed, and recommending that E-WM-17 or E-WM-4 may be used instead.

E-WM-14

Notification that E-WM-14 has now been removed, and recommending that E-WM-20 or E-WM-11 may be used instead.

E-WM-15

Notification that E-WM-15 has now been removed, and recommending that E-WM-24, E-WM-6, E-WM-10 or E-WM-13 may be used instead.

E-WM-31

All	All	H+H - Celcon Elements renamed to H+H - Celcon Vertical Wall Panels.
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Separating Wall – Steel

E-WS-6

Diagrams 1 & 2	2	Stone wool added as an external wall treatment option.
Diagram 7	5	Fermacell added as an alternative spandrel panel lining.

Section	Page	Amendment
Appendix A2		
Icopal-MONARFLOOR® BRIDGESTOP® System		
Diagram 4	2	Floating floor treatment clarified.
Smartroof		
Diagram 2	3	Gypsum-based board overlap reduced to min 100mm.
Appendix B		
Mineral wool	2	Blown insulation added as an optional form.
Appendix G		
Impact Test 3	1	Impact tapping machine board size clarified.

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	Suspended from further registrations
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) 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	Suspended from further registrations
E-WM-15	Suspended from further registrations
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) 100mm min 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 Supafil® Party Wall (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 Supafil® Party Wall (gypsum-based board) with 100mm min cavity
E-WM-31	masonry – H+H – Celcon Vertical Wall Panels (gypsum-based board) with 100mm minimum insulated cavity
E-WM-32	masonry – lightweight aggregate blockwork Knauf Earthwool Masonry Party Wall Slab (gypsum-based board) with minimum 75mm cavity
E-WM-33	masonry – lightweight aggregate blockwork Superglass Superwhite 34 (gypsum-based board) with 100mm minimum cavity
E-WM-34	masonry – Plasmor “Aglite Ultima” lightweight aggregate blockwork (gypsum-based board) with full-fill cavity insulation

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 – Openwall 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
E-WS-6	steel frame – modular steel frame volumetric housing

Introduction

List of Robust Details

Table 2 – Separating floors

E-FC-1	precast concrete plank with directly applied screed and floating floor treatment
E-FC-2	in-situ concrete slab and floating floor treatment
E-FC-3	Suspended from further registrations
E-FC-4	precast concrete plank and Thermal Economics IsoRubber Base system and floating screed
E-FC-5	precast concrete plank and Cellecta Yelo ^{fon} HD10+ system and floating screed
E-FC-6	beam and block with concrete topping Regupol E48 system and floating screed
E-FC-7	beam and block with concrete topping and floating floor treatment
E-FC-8	precast concrete plank with floating screed and bonded resilient floor covering
E-FC-9	precast concrete plank with directly applied screed and Thermal Economics IsoRubber top bonded resilient floor covering
E-FC-10	in-situ concrete slab with Thermal Economics IsoRubber top bonded resilient floor covering
E-FC-11	precast concrete plank and Icopal-MONARFLOOR [®] Tranquilt and floating screed
E-FC-12	precast concrete plank and Thermal Economics IsoRubber Base HP3 system and floating screed
E-FC-13	precast concrete plank and InstaCoustic InstaLay 65 system and floating screed
E-FC-14	precast concrete plank and Thermal Economics IsoRubber Base system and floating screed
E-FC-15	precast concrete plank and Regupol Quietlay layer and floating screed
E-FC-16	precast concrete plank with directly applied screed and Thermal Economics IsoRubber CC3 bonded resilient floor covering
E-FC-17	precast concrete plank and Cellecta YELo ^{fon} [®] HD10+ system and floating screed and Cellecta ULTRA ceiling treatment
E-FC-18	in-situ concrete slab with floating screed or bonded resilient floor covering
E-FC-19	precast concrete plank and Cellecta RUBBER ^{fon} Impact 6 system and floating screed
E-FT-1	timber I-joists and floating floor treatment
E-FT-2	timber solid joists and floating floor treatment
E-FT-3	MiTek Posi-Joist, Prestoplan PresWeb, WOLF easi-joist, ITW Gang-Nail Ecojoist or ITW Alpine SpaceJoist metal web timber joist and floating floor treatment
E-FT-4	timber Finnjoists with Finnforest Acoustic layer and Gyvlon screed
E-FT-5	Cellecta ScreedBoard [®] 28 system on timber I-joists
E-FT-6	Cellecta ScreedBoard [®] 28 system on metal web joists
E-FT-7	timber I-joists and FFT80 floating floor treatment
E-FT-8	timber solid joists and FFT80 floating floor treatment
E-FS-1	steel deck and in-situ concrete and floating floor treatment
E-FS-2	UltraBEAM metal joists and floating floor treatment
E-FS-3	Cellecta ScreedBoard [®] 28 system on metal joists

Introduction

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

Separating walls		Separating floors					
		E-FC-1 E-FC-11 E-FC-12 E-FC-13 E-FC-14	E-FC-15 E-FC-16 E-FC-17 E-FC-19	E-FC-4	E-FC-5	E-FC-6 E-FC-7	E-FC-8 E-FC-9 E-FC-10
E-WM-1	E-WM-16	✓		✓	✓	✓	✓
E-WM-3	E-WM-18						
E-WM-2	E-WM-26						
E-WM-4	E-WM-27						
E-WM-5	E-WM-28	✓		✓	✓	F	✓
E-WM-11	E-WM-32						
E-WM-20	E-WM-33						
E-WM-21							
E-WM-6	E-WM-23						
E-WM-10	E-WM-24	F		✓	✓ ^{see note 1}	F	✓
E-WM-13	E-WM-30						
E-WM-12	E-WM-34	F		✓	F	F	F
E-WM-17	E-WM-22	✓ ^{see note 2}		✓	✓ ^{see note 2}	F	✓ ^{see note 2}
E-WM-25	E-WM-29	F		F	F	F	F

Key

F Only the separating floor requires pre-completion sound testing.

1 Where this combination is selected, 200mm (min) thick precast concrete planks and ceiling treatment CT5 must be used.

2 This combination can only be selected where the separating wall construction does not include Plasmor Aglite Ultima blocks (1050 kg/m³).

Combining **robustdetails**[®] loadbearing masonry walls and floors with **robustdetails**[®] lightweight framed separating walls

Upper storeys of flats may be constructed using lightweight steel or timber frame, where the lower storeys are loadbearing masonry.

The lightweight separating walls built directly off the uppermost 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 **robustdetails**[®] separating wall;
- the external (flanking) wall construction above the separating floor meets the requirements on page 2 of the relevant **robustdetails**[®] separating wall, and has 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.

The separating floor may 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 **robustdetails**[®] separating floor;
- all other relevant requirements in the Handbook are strictly followed.

Introduction

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

Separating walls	Separating floors	
	E-FT-1 E-FT-2 E-FT-3 E-FT-4 E-FT-5 E-FT-6 E-FT-7 E-FT-8	E-FC-2 E-FC-18 E-FS-1
E-WT-1	✓	W see note 1
E-WT-2	✓	W see note 1
E-WT-3	F	W see note 1
E-WT-4	F	W see note 1

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

Separating walls	Separating floors					
	E-FC-2	E-FC-10	E-FC-18	E-FS-1	E-FS-2	E-FS-3
E-WS-1	W see note 1	W	W see note 1	W see note 1	✓	✓
E-WS-2	✓	W	✓ see note 2	W	W	W
E-WS-3	W	W	W	W	W	W
E-WS-4	W see note 1	W	W see note 1	W see note 1	✓	✓
E-WS-5	✓	✓	✓	W	W	W

Key for Table 3b and Table 3c

F Only the separating floor requires pre-completion sound testing.

W Only the separating wall requires pre-completion sound testing.

1 Lightweight steel and timber frame walls may be constructed above in-situ poured concrete floors.

The lightweight walls built directly off the concrete floors may be registered as Robust Details provided:

- they meet all other requirements of the Robust Detail, 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 to shield the base of the wall, as shown in the Separating Wall junction in the floor Robust Detail;
- Walls constructed to the soffit of in-situ poured concrete floors cannot be registered as Robust Details and may be subject to pre-completion sound testing.

2 A floating screed must be installed up to the separating wall as shown in the separating floor detail.

See also notes relating to [Combining loadbearing masonry and lightweight framed separating walls](#) included under Table 3a.

Introduction

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

Loadbearing masonry			
E-WM-1	F1	E-WM-21	F1
E-WM-2	F1	E-WM-22	F1
E-WM-3	F1	E-WM-23	F1
E-WM-4	F1	E-WM-24	F1
E-WM-5	F1	E-WM-25	F1
E-WM-6	F1	E-WM-26	F1
E-WM-10	F1	E-WM-27	F1
E-WM-11	F1	E-WM-28	F1
E-WM-12	F1	E-WM-29	F1
E-WM-13	F1	E-WM-30	F1
E-WM-16	F1	E-WM-31	F1
E-WM-17	F1	E-WM-32	F1
E-WM-18	F1	E-WM-33	F1
E-WM-20	F1	E-WM-34	F1

Timber frame		Light steel frame	
E-WT-1	F2	E-WS-1	F3
E-WT-2	F2	E-WS-2	F4
E-WT-3	F2	E-WS-3	F3
E-WT-4	F2	E-WS-4	F3
		E-WS-5	F4

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.
- F3** Only the separating floor requires pre-completion testing provided the wall is being used in a lightweight steel frame flat/apartment and the floor does not bridge the separating wall cavity. Otherwise both the wall and floor need testing.
- F4** Only the separating floor requires pre-completion testing provided the wall is being used in a concrete frame building and the floor has the required floor treatment (see notes under Table 3c). Otherwise both the wall and floor need testing.

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

Loadbearing masonry			
E-FC-1	W1	E-FC-11	W1
E-FC-4	W2	E-FC-12	W1
E-FC-5	W2	E-FC-13	W1
E-FC-6	W1	E-FC-14	W1
E-FC-7	W1	E-FC-15	W1
E-FC-8	W2	E-FC-16	W1
E-FC-9	W2	E-FC-17	W1
E-FC-10	W2	E-FC-19	W1

Timber frame		RC frame	
E-FT-1	W3	E-FC-2	W4
E-FT-2	W3	E-FC-10	W4
E-FT-3	W3	E-FC-18	W4
E-FT-4	W3		
E-FT-5	W3		
E-FT-6	W3		
E-FT-7	W3		
E-FT-8	W3		

Light steel frame	
E-FS-1	W4
E-FS-2	W5
E-FS-3	W5

Key

- W1** Only the separating wall requires pre-completion testing provided the wall is constructed using aggregate blocks specified for the inner leaf in the floor Robust Detail. Otherwise both the floor and wall need testing.
- W2** Only the separating wall requires pre-completion testing provided the wall is constructed using blocks specified for the inner leaf in the floor Robust Detail. Otherwise both the floor and wall need testing.
- 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.
- W4** 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.
- W5** Only the separating wall requires pre-completion testing if used with steel frame supporting walls and twin leaf steel frame separating walls. Otherwise both the floor and wall 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.

Introduction

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

		BRIDGESTOP® system	Smartroof system	Wall Cap RDA2	RoofSpace I-Roof	Space4 system	Donaldson Timber Single Leaf Spandrel	NTSROOF RAPID FIT SYSTEM	Nu-Span Spantherm
Masonry walls	E-WM-1	✓		✓		✓		✓	✓
	E-WM-2	✓		✓		✓		✓	✓
	E-WM-3	✓	✓	✓	✓	✓		✓	✓
	E-WM-4	✓	✓	✓	✓	✓		✓	✓
	E-WM-5	✓	✓	✓	✓	✓		✓	✓
	E-WM-6		✓	✓	✓				✓
	E-WM-9								
	E-WM-10		✓	✓	✓				✓
	E-WM-11	✓	✓	✓	✓	✓		✓	✓
	E-WM-12	✓	✓	✓	✓	✓		✓	✓
	E-WM-13		✓	✓	✓				✓
	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}	✓	✓	✓				✓
	E-WM-31		✓	✓	✓				✓
	E-WM-32	✓	✓	✓	✓	✓		✓	✓
	E-WM-33	✓	✓	✓	✓	✓		✓	✓
	E-WM-34	✓	✓	✓	✓	✓		✓	✓

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 specific flanking constructions contained in Appendix A2

		Smartroof system	Kingspan TEK	Prestoplan PresPeak 60	Wall Cap RDA2	RoofSpace I-Roof	Space4 system	Donaldson Timber Single Leaf Spandrel	NTSROOF RAPID FIT SYSTEM	Lightweight external cladding systems	Nu-Span Spantherm
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										

Important information regarding current status of E-WM-7

E-WM-7 had been subject to extensive investigations and research focusing on the use of wall ties on this thin joint system, and the effect they have on performance.

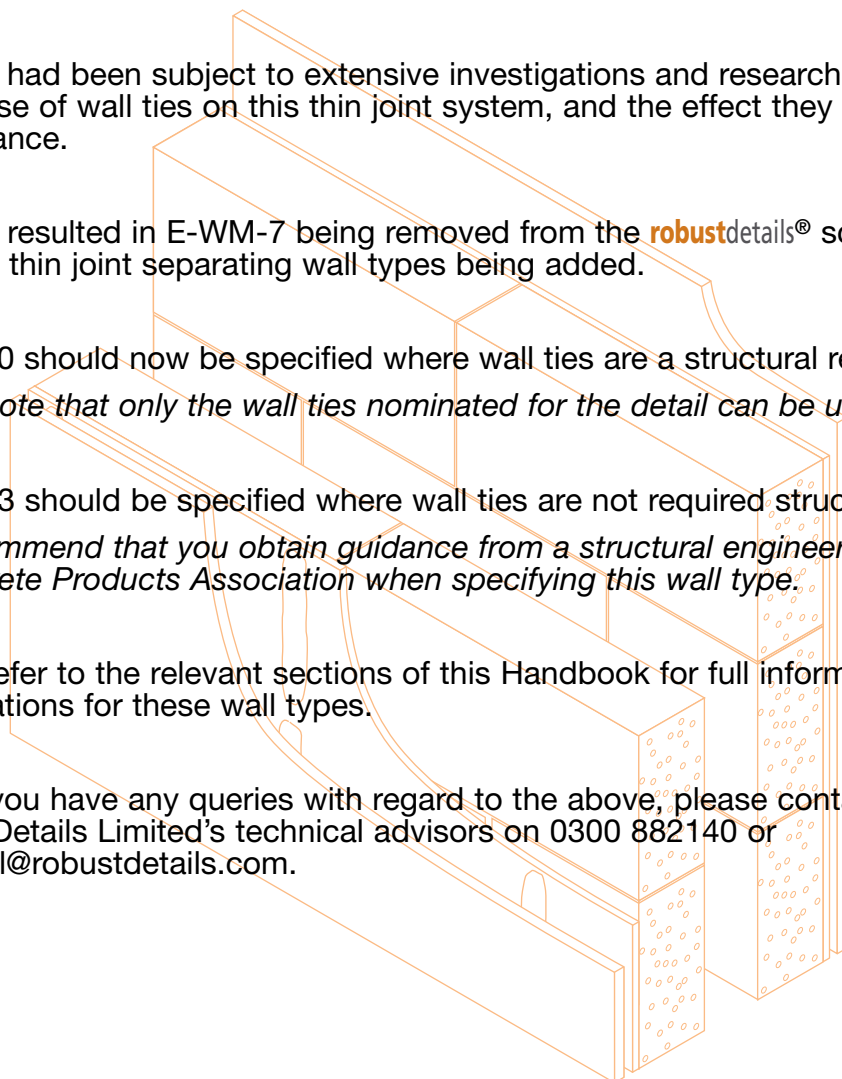
This has resulted in E-WM-7 being removed from the **robustdetails**[®] scheme, and two new thin joint separating wall types being added.

E-WM-10 should now be specified where wall ties are a structural requirement. *Please note that only the wall ties nominated for the detail can be used.*

E-WM-13 should be specified where wall ties are not required structurally. *We recommend that you obtain guidance from a structural engineer and from the Aircrete Products Association when specifying this wall type.*

Please refer to the relevant sections of this Handbook for full information and specifications for these wall types.

Should you have any queries with regard to the above, please contact Robust Details Limited's technical advisors on 0300 882140 or technical@robustdetails.com.



Important information regarding current status of E-WM-8

As the Isover RD35 insulation is no longer being manufactured, it is not possible to build to the E-WM-8 specification. Therefore, this wall type has been withdrawn from the **robust**details® scheme and can no longer be selected for registrations.

The following Robust Details, also using Saint-Gobain Isover insulation, may be considered as alternatives for registration:

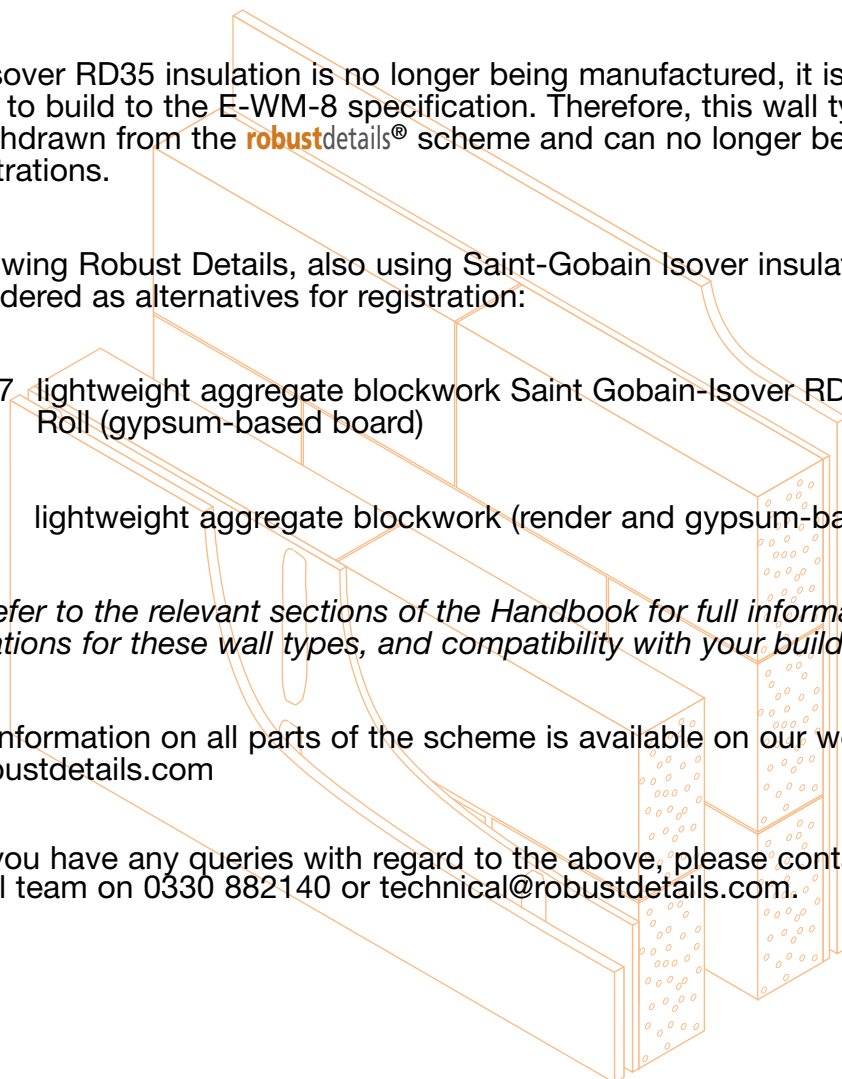
E-WM-17 lightweight aggregate blockwork Saint Gobain-Isover RD Party Wall Roll (gypsum-based board)

E-WM-4 lightweight aggregate blockwork (render and gypsum-based board).

Please refer to the relevant sections of the Handbook for full information and specifications for these wall types, and compatibility with your build.

Further information on all parts of the scheme is available on our website www.robustdetails.com

Should you have any queries with regard to the above, please contact RDL's technical team on 0330 882140 or technical@robustdetails.com.



Important information regarding current status of E-WM-14

As the Isover RD35 insulation is no longer being manufactured, it is not possible to build to the E-WM-14 specification. Therefore, this wall type has been withdrawn from the **robust**details® scheme and can no longer be selected for registrations.

The following Robust Details, also using Saint-Gobain Isover insulation, may be considered as alternatives for registration:

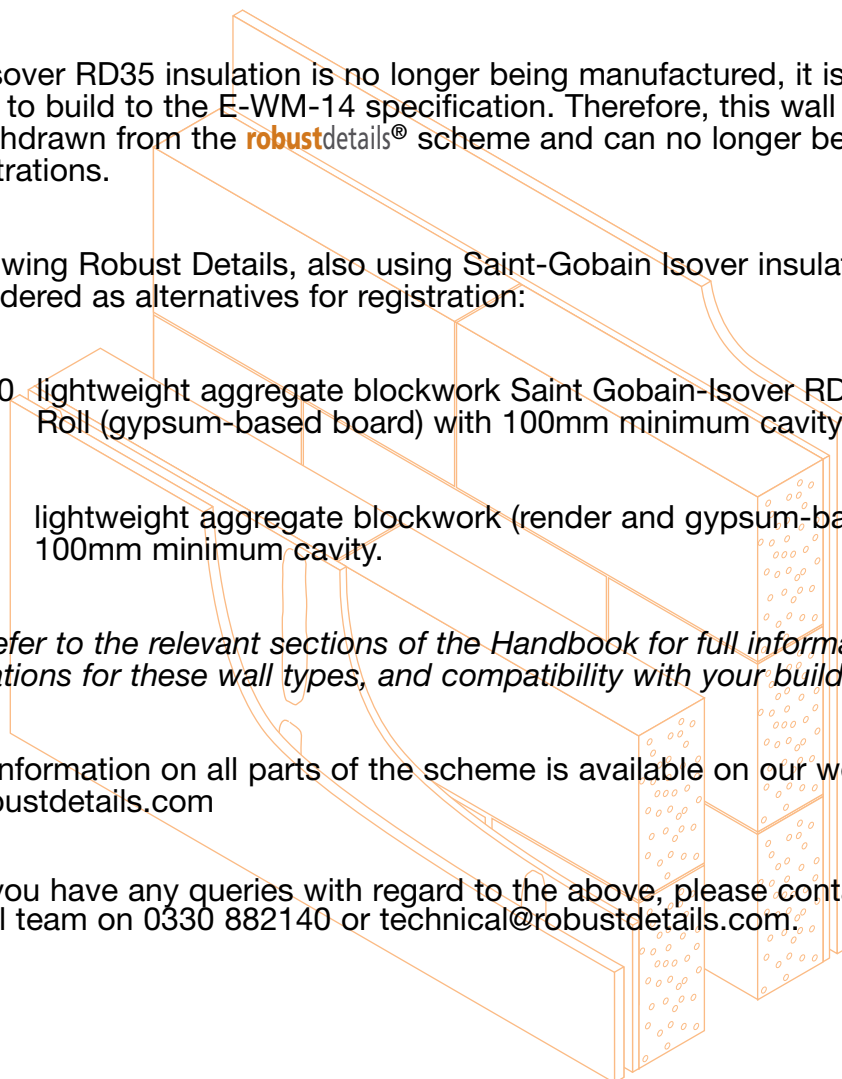
E-WM-20 lightweight aggregate blockwork Saint Gobain-Isover RD Party Wall Roll (gypsum-based board) with 100mm minimum cavity

E-WM-4 lightweight aggregate blockwork (render and gypsum-based board) 100mm minimum cavity.

Please refer to the relevant sections of the Handbook for full information and specifications for these wall types, and compatibility with your build.

Further information on all parts of the scheme is available on our website www.robustdetails.com

Should you have any queries with regard to the above, please contact RDL's technical team on 0330 882140 or technical@robustdetails.com.



Important information regarding current status of E-WM-15

As the Isover RD35 insulation is no longer being manufactured, it is not possible to build to the E-WM-15 specification. Therefore, this wall type has been withdrawn from the **robust**details® scheme and can no longer be selected for registrations.

The following Robust Details, also using Saint-Gobain Isover insulation, may be considered as alternatives for registration:

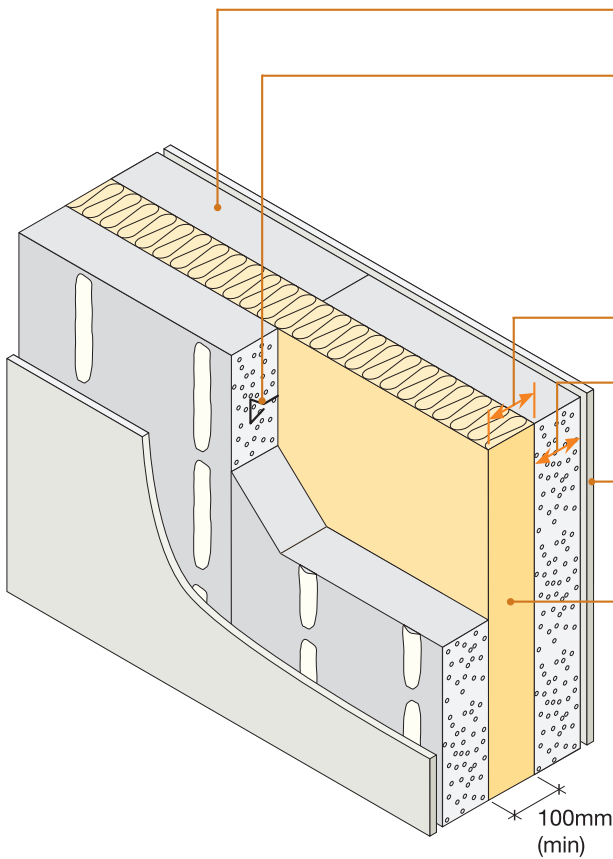
- E-WM-24 aircrete blockwork Saint Gobain – Isover RD Party Wall Roll (gypsum-based board) with 100mm minimum cavity.
- E-WM-6 aircrete blockwork (render and gypsum-based board)
- E-WM-10 aircrete thin joint blockwork with specified wall ties (render and gypsum-based board finish)
- E-WM-13 aircrete thin joint - untied blockwork (render and gypsum-based board)
We recommend that you obtain guidance from a structural engineer and from the Aircrete Products Association when specifying this wall type.

Please refer to the relevant sections of the Handbook for full information and specifications for these wall types, and compatibility with your build.

Further information on all parts of the scheme is available on our website www.robustdetails.com

Should you have any queries with regard to the above, please contact RDL's technical team on 0330 882140 or technical@robustdetails.com.

- Attached houses only ■
- H+H - Celcon Vertical Wall Panels - thin joint ■
- Gypsum-based board (nominal 8 kg/m²) on dabs ■
- Used with 'RoofSpace I-House System' ■

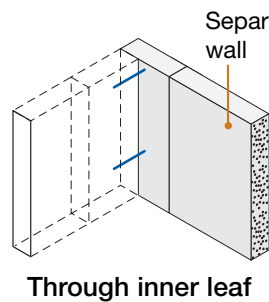
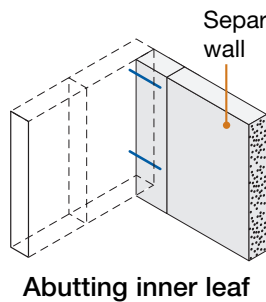
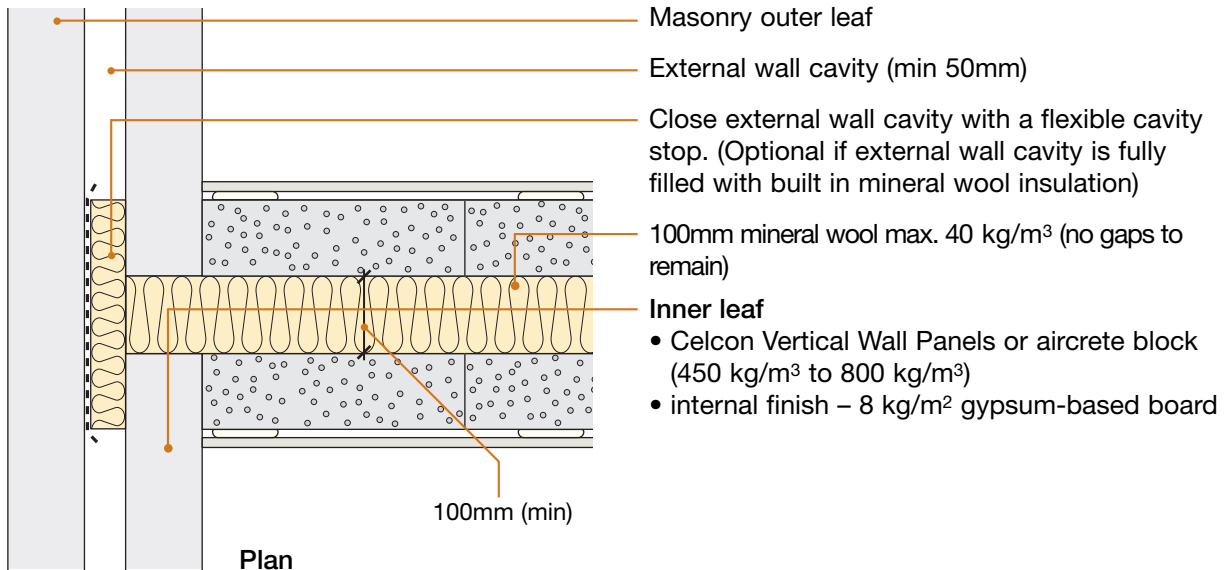


Panel density	575 kg/m ³
Wall ties	Wall ties must be Vista VE4, Ancon Building Products Staifix HRT4 or Clan PWT4 installed at no more than 3 ties per storey height (see section 3)
Cavity width	100mm (min)
Panel thickness	100mm (min), each leaf
Wall finish	Gypsum-based board (nominal 8 kg/m ²) mounted on dabs
Insulation	100mm mineral wool maximum density 40 kg/m ³
External (flanking) wall	Celcon Vertical Wall Panels or aircrete (450-800 kg/m ³) 50mm (min) cavity – clear, fully filled or partially filled with insulation – and masonry outer leaf

DO

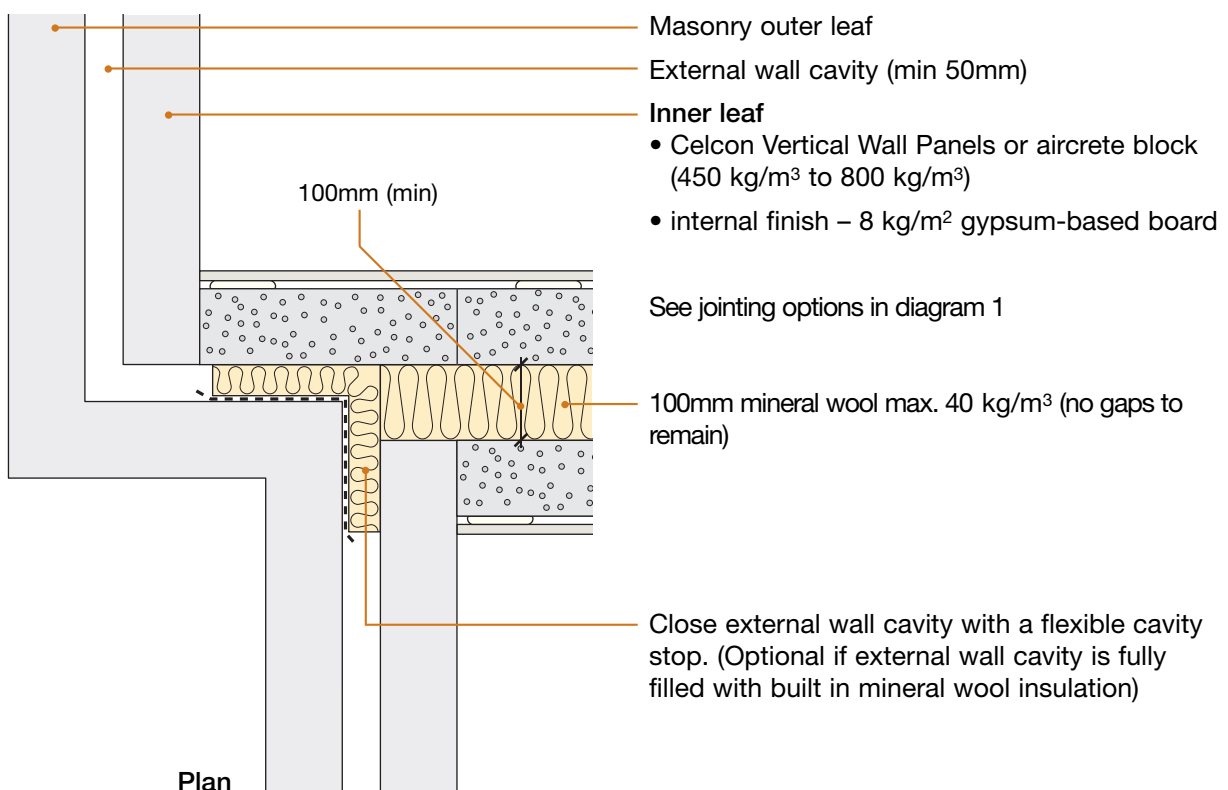
- Keep cavity, insulation and wall ties free from debris
- Fully fill all joints
- Make sure there is no connection between the two leaves except for wall ties, insulation and foundation
- Ensure all insulation sections are tightly butted together and half cuts are made with a clean sharp knife and are 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

1. External (flanking) wall junction

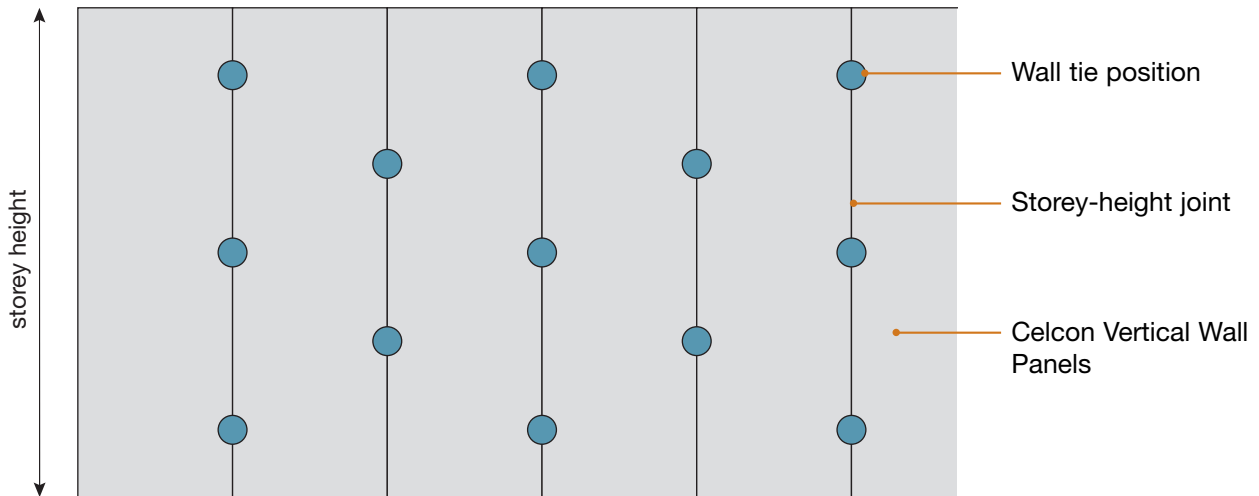


Vertical Wall Panels forming the separating wall may abut, or be taken through to the cavity face of the inner leaf

2. Staggered external (flanking) wall junction



3. Wall tie placement

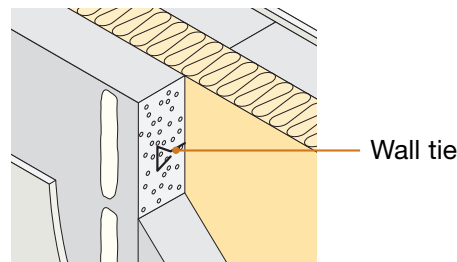


Only the following wall ties are permitted:

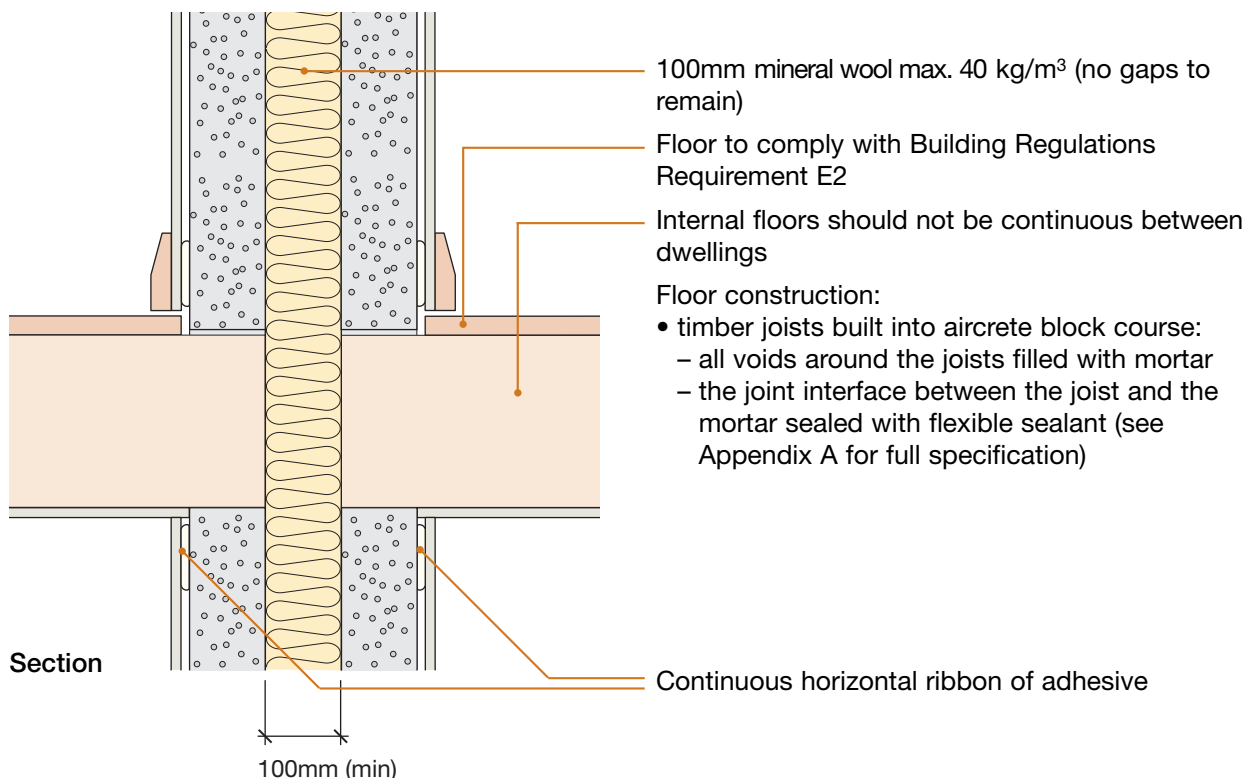
- Vista VE4
- Ancon Building Products Staifix HRT4
- Clan PWT4

Wall ties to be positioned following the alternating pattern shown above.

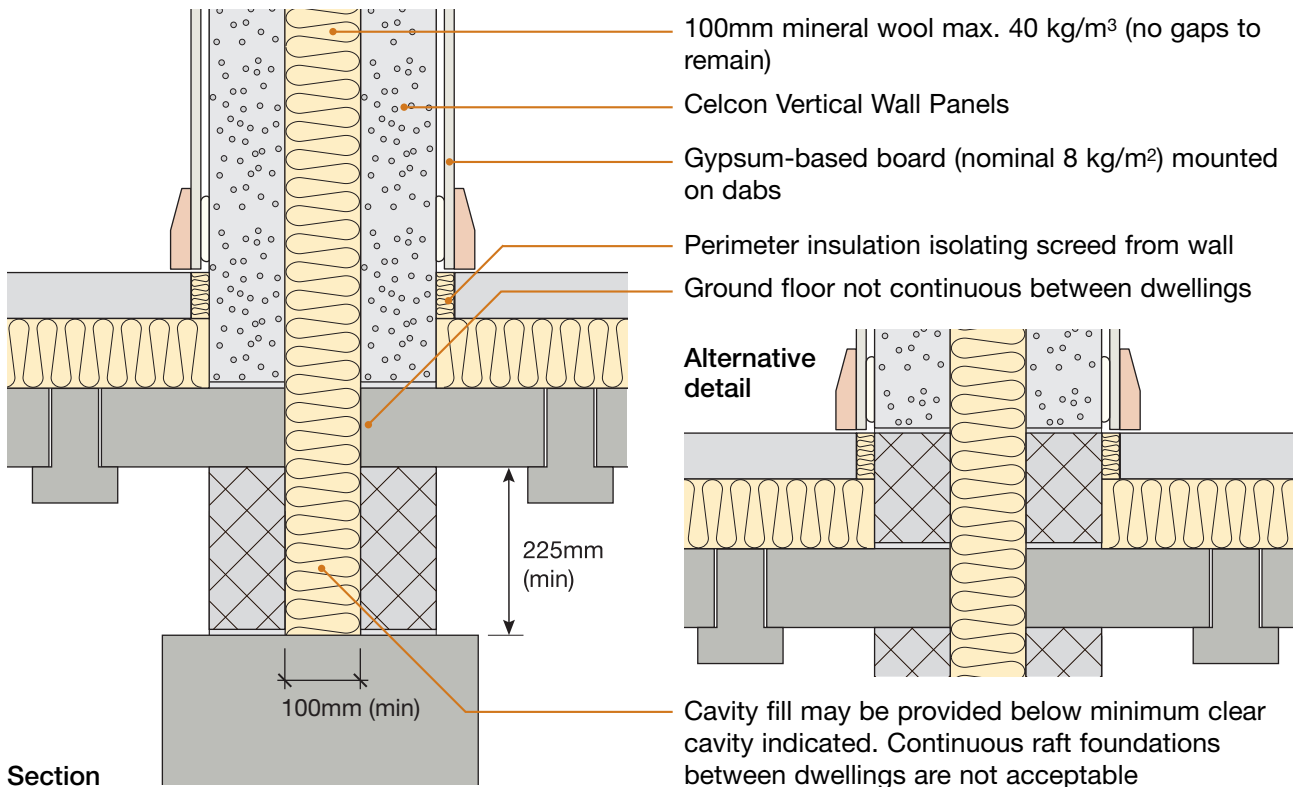
No more than 3 ties per storey-height joint



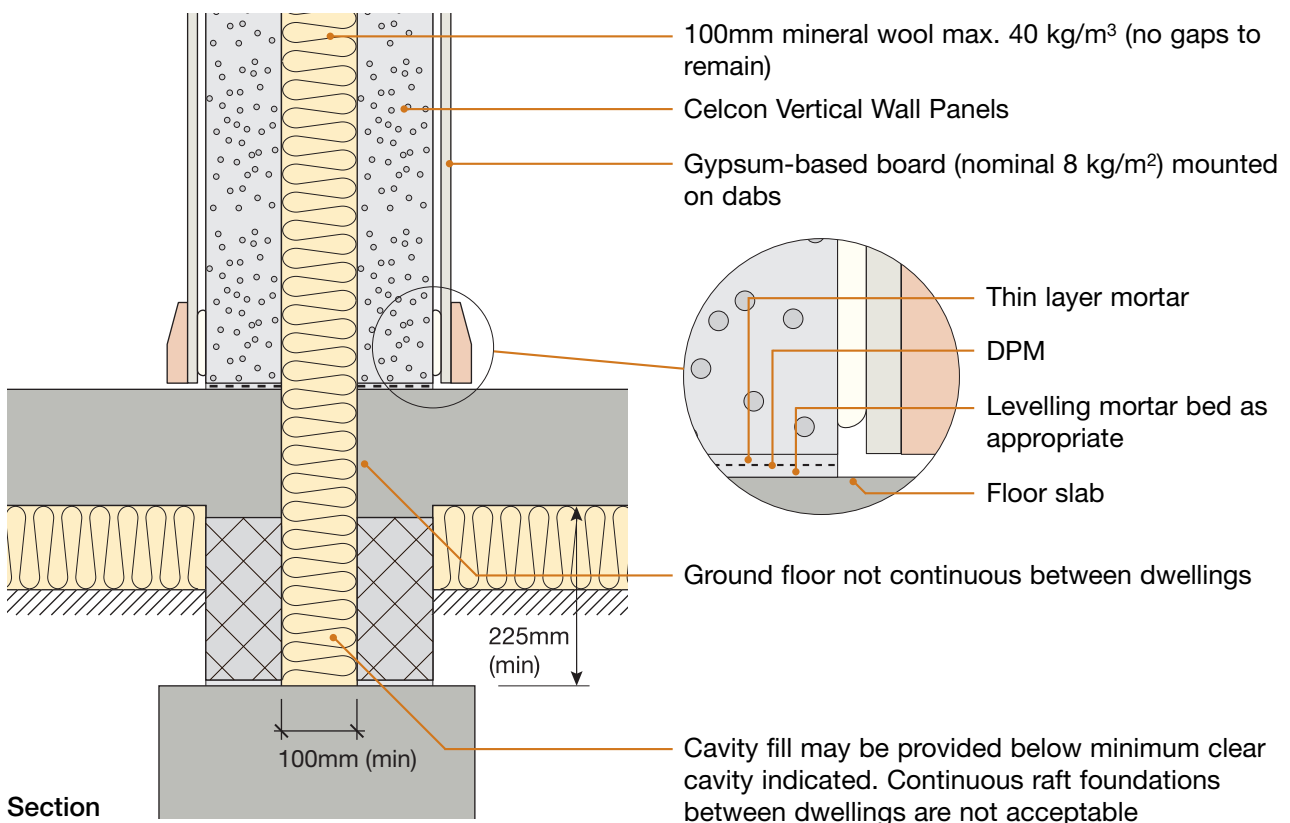
4. Internal floor junction: timber floor joists built in



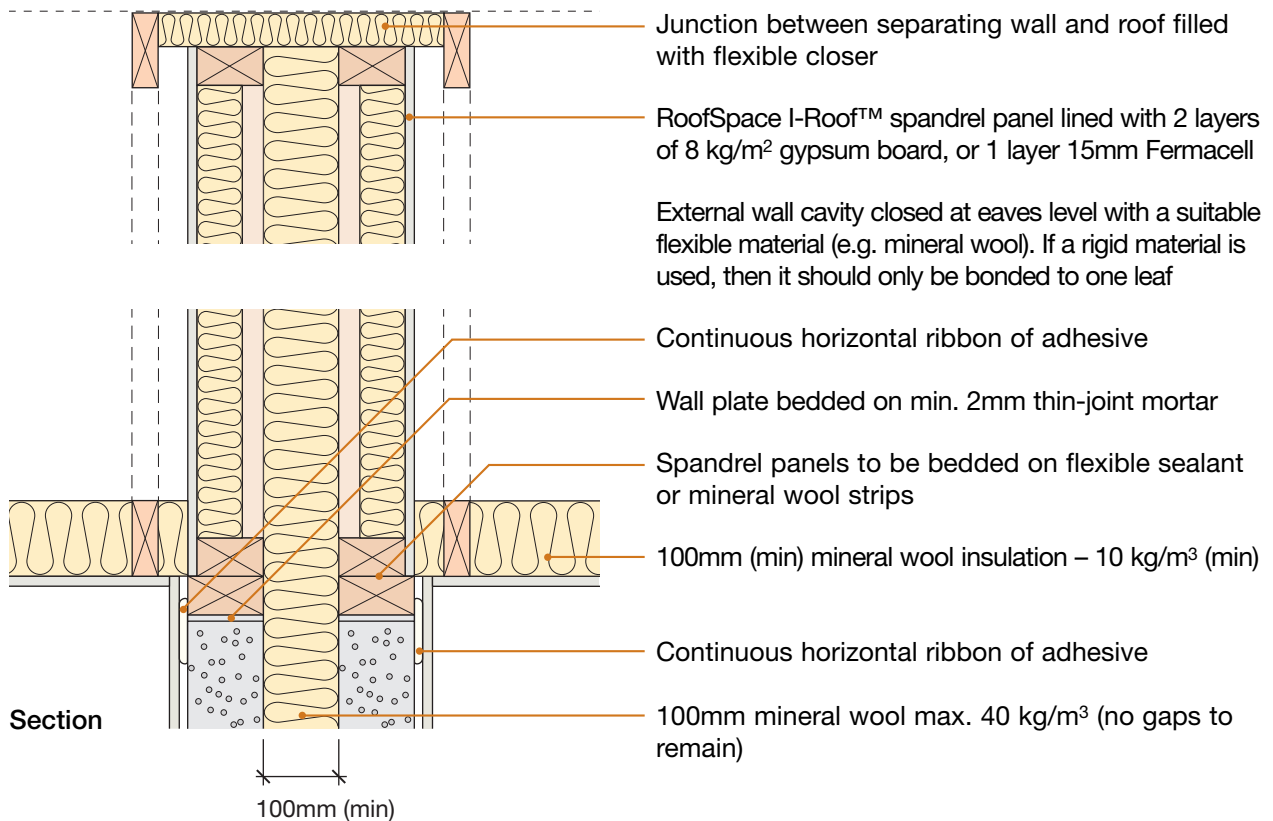
5. Ground floor junction: beam and block or precast concrete plank



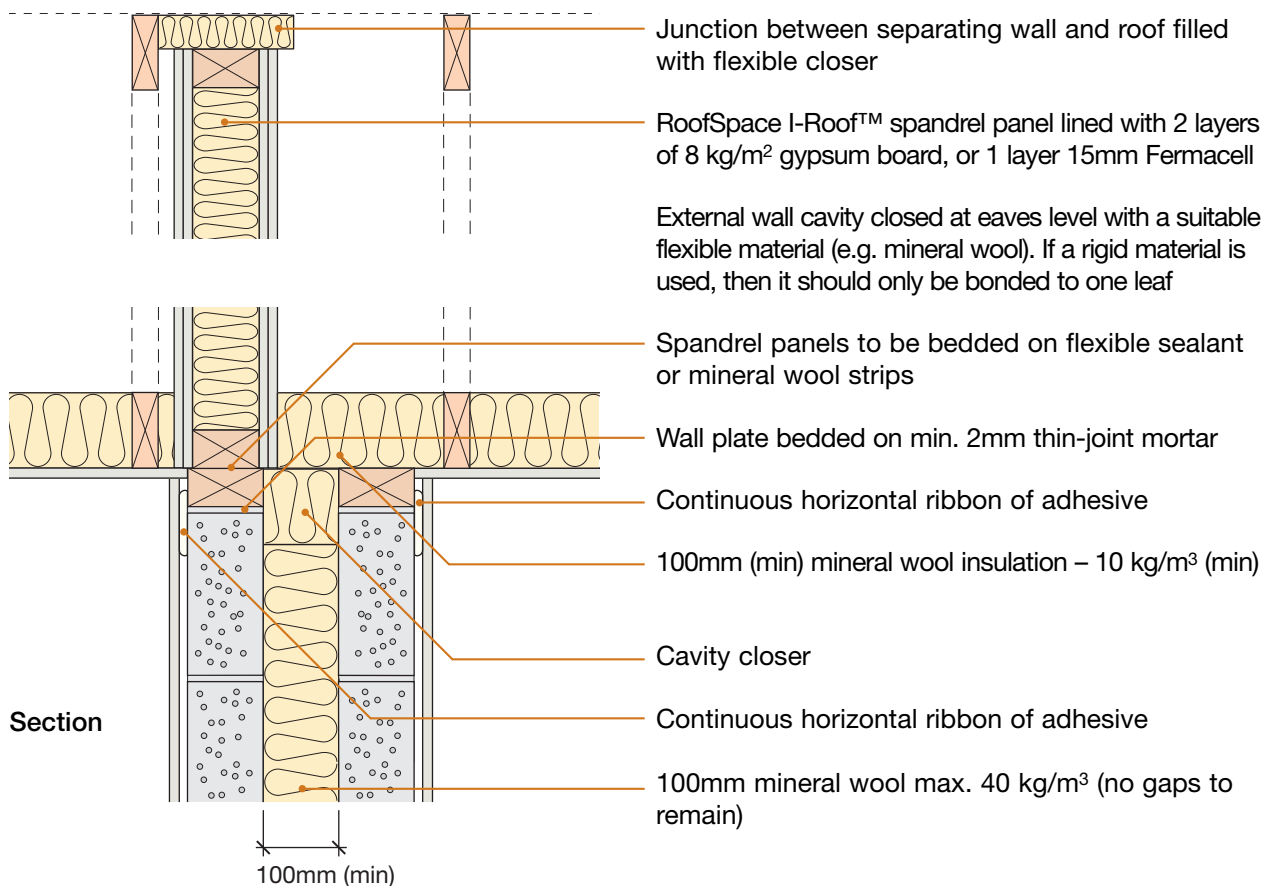
6. Ground floor junction: cast in-situ suspended concrete slab or ground bearing concrete slab



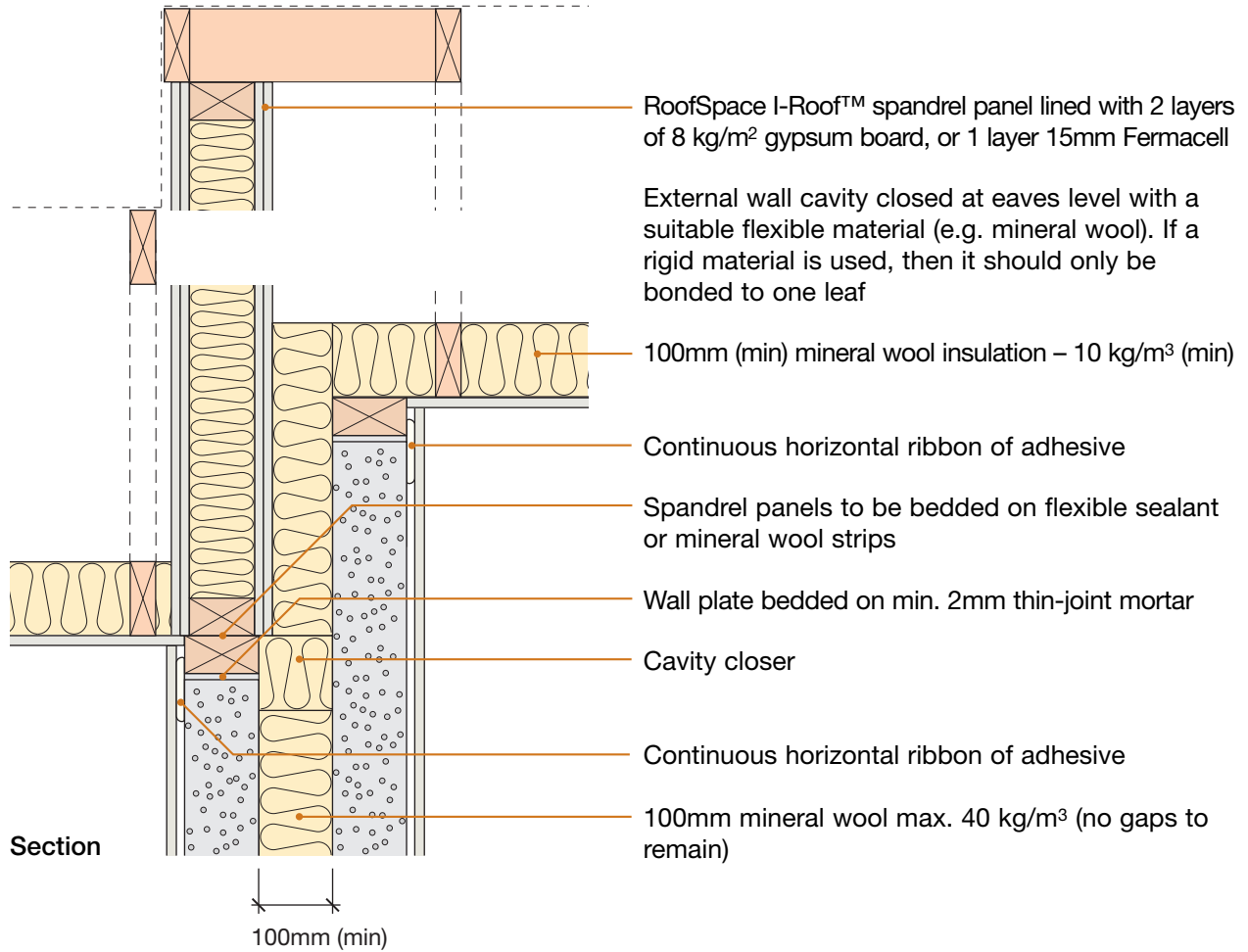
7. Roof junction – pitched roof without room-in-roof



Alternative detail with single spandrel panel



8. Stepped roof junction – pitched roof without room-in-roof



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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 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.	Is external (flanking) wall inner leaf constructed from Celcon Vertical Wall Panels or aircrete (450 to 800 kg/m ³)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	Are separating wall leafs constructed from Celcon Vertical Wall Panels or aircrete (600 to 800 kg/m ³)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	Is cavity free from droppings and debris?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
6.	Are separating wall ties Vista VE4, Ancon Staifix HRT4 or Clan PWT4 installed at no more than 3 ties per storey-height joint?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
7.	Are cavity stops installed where specified in the Robust Detail?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
8.	Are joints fully filled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
9.	Is 100mm mineral wool max. 40 kg/m ³ used, with no gaps remaining?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
10.	Is spandrel wall plate fully bedded on mortar, with no air gaps?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
11.	Are voids around floor joists, chases, etc. fully filled/sealed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
12.	Where the ground floor has a floating floor treatment, has the perimeter insulation been installed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
13.	Are all junctions of wall and ceiling boards sealed with tape or caulked with sealant?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
14.	Is separating wall satisfactorily complete?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

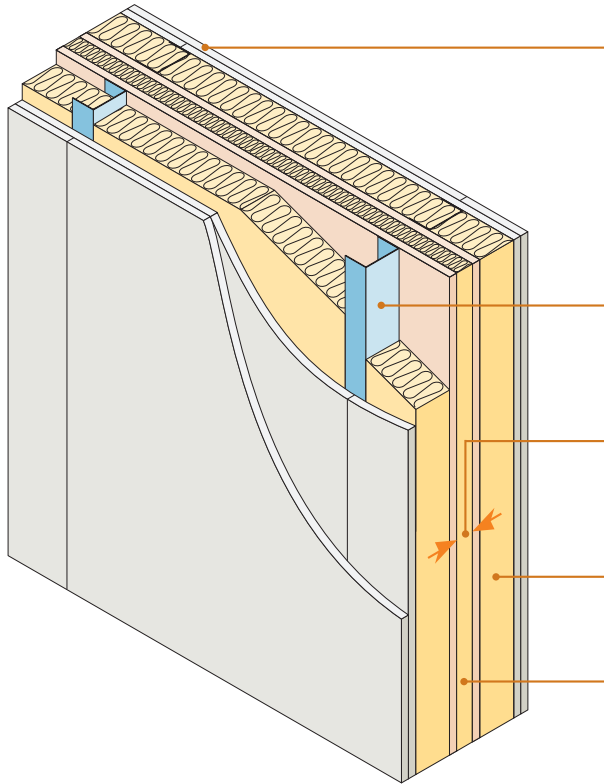
Contact details for technical assistance from: H+H UK
Telephone: 01732 886333 **E-mail: info@hcelcon.co.uk**

Notes (include details of any corrective action)

Site manager/supervisor signature

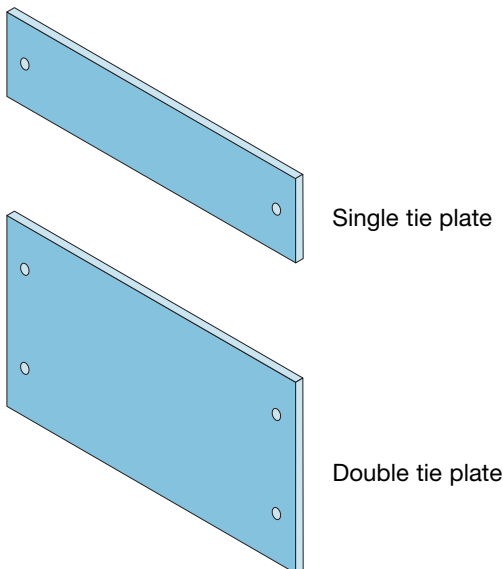
©: UK registered trade mark no. 2291665
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 Warning: the doing of an unauthorised act in relation to a copyright work may result in both a civil claim for damages and criminal prosecution.

Modular build twin metal frames ■
 Only for use in lightweight steel frame modular houses ■



Wall lining	2 layers of gypsum-based board, total mass per unit area 23 kg/m ² (min), both sides - all joints staggered
Metal frame	Metal frame 'C' or 'I' studs minimum 100mm
Sheathing board	Minimum 15mm board with 40mm (min) spacing between boards
Absorbent material	100mm (min) mineral wool 10-40 kg/m ³
Cavity insulation	Mineral wool batts to fill cavity (site-filled)

Tie Plates



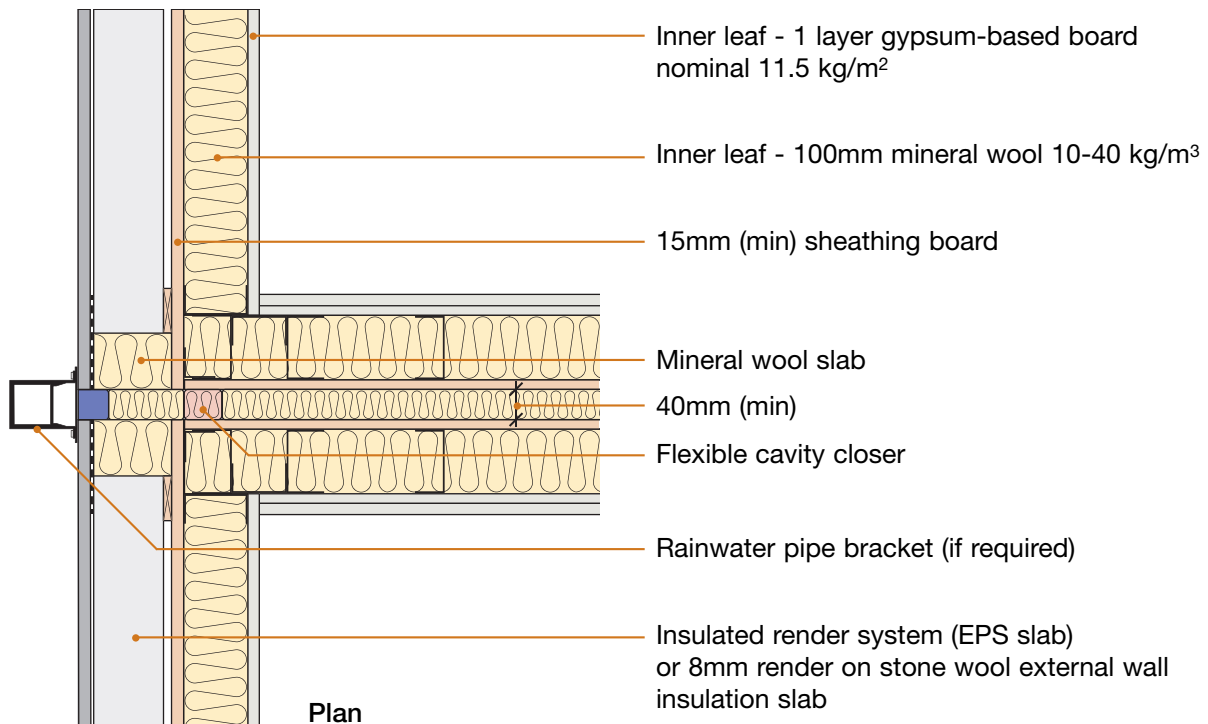
At both ends of modules:

- 1 single tie plate at the top of uppermost modules
- 1 double plate at intermediate floor level

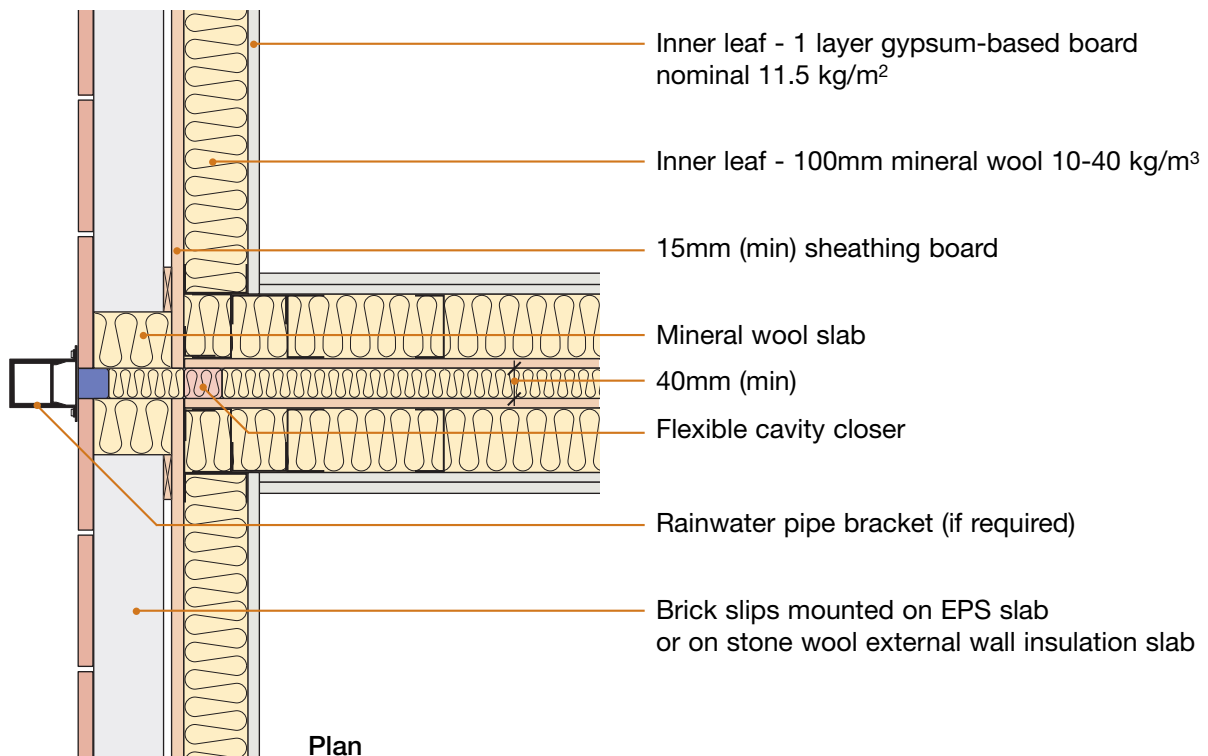
DO

- Keep wall sheathing boards at least 40mm apart
- Ensure that batts cover the whole wall area and are fitted together tightly
- Ensure that all cavity stops/closers are flexible
- Make sure there is no connection between the two leafs except for specified tie plates
- 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

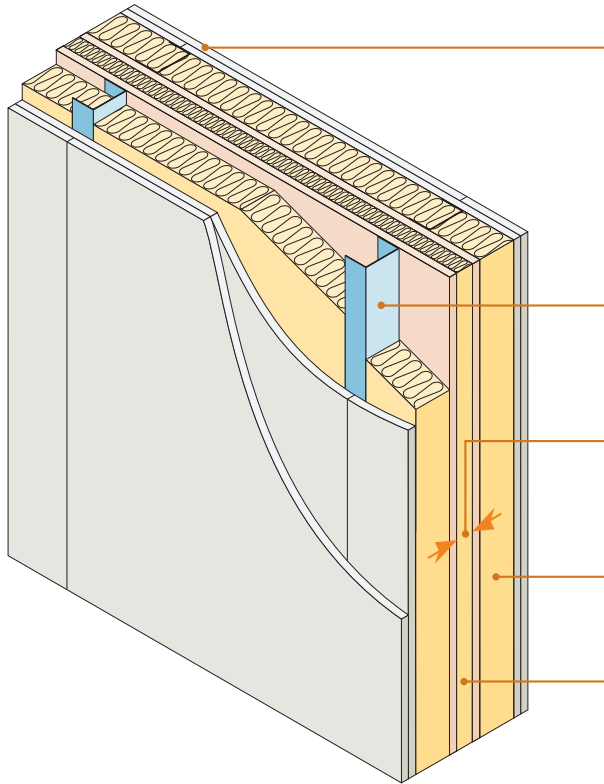
1. External wall junction – render



2. External wall junction – brick slip

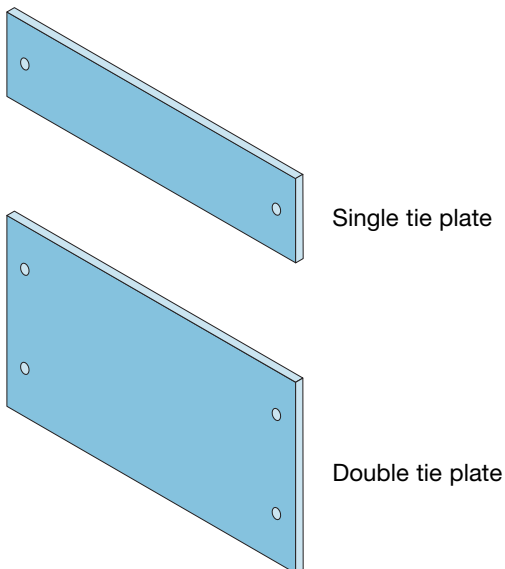


Modular build twin metal frames ■
 Only for use in lightweight steel frame modular houses ■



Wall lining	2 layers of gypsum-based board, total mass per unit area 23 kg/m ² (min), both sides - all joints staggered
Metal frame	Metal frame 'C' or 'I' studs minimum 100mm
Sheathing board	Minimum 15mm board with 40mm (min) spacing between boards
Absorbent material	100mm (min) mineral wool 10-40 kg/m ³
Cavity insulation	Mineral wool batts to fill cavity (site-filled)

Tie Plates



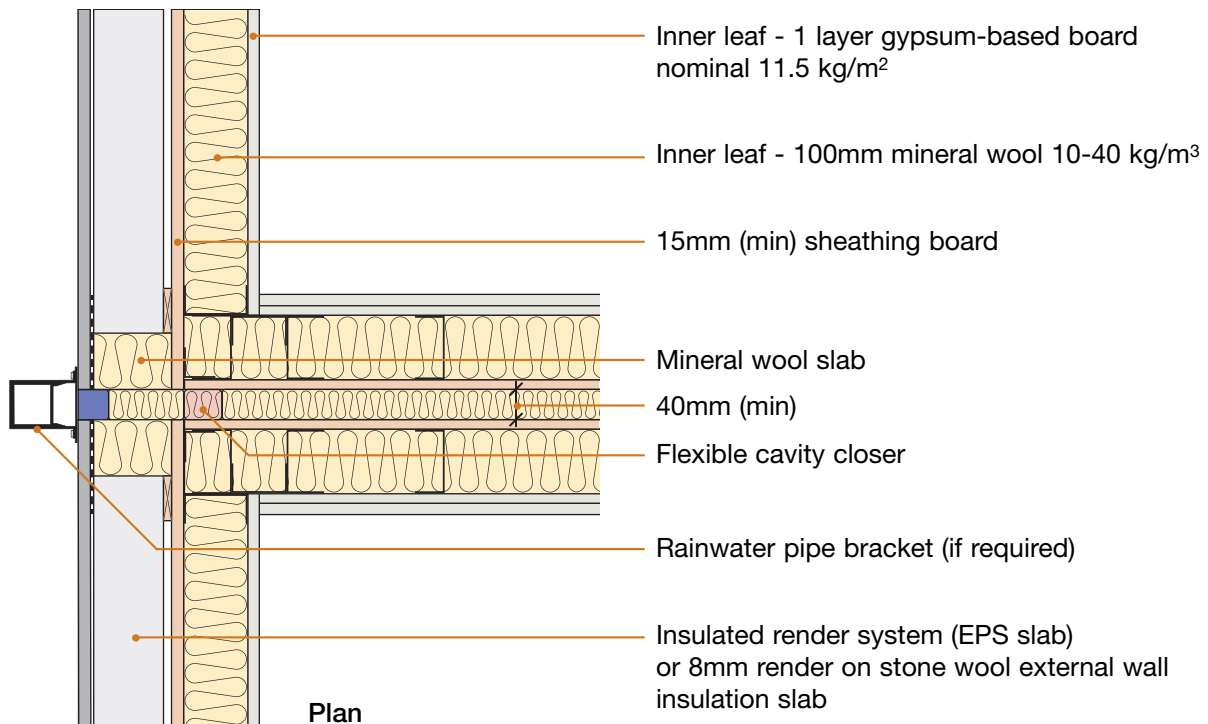
At both ends of modules:

- 1 single tie plate at the top of uppermost modules
- 1 double plate at intermediate floor level

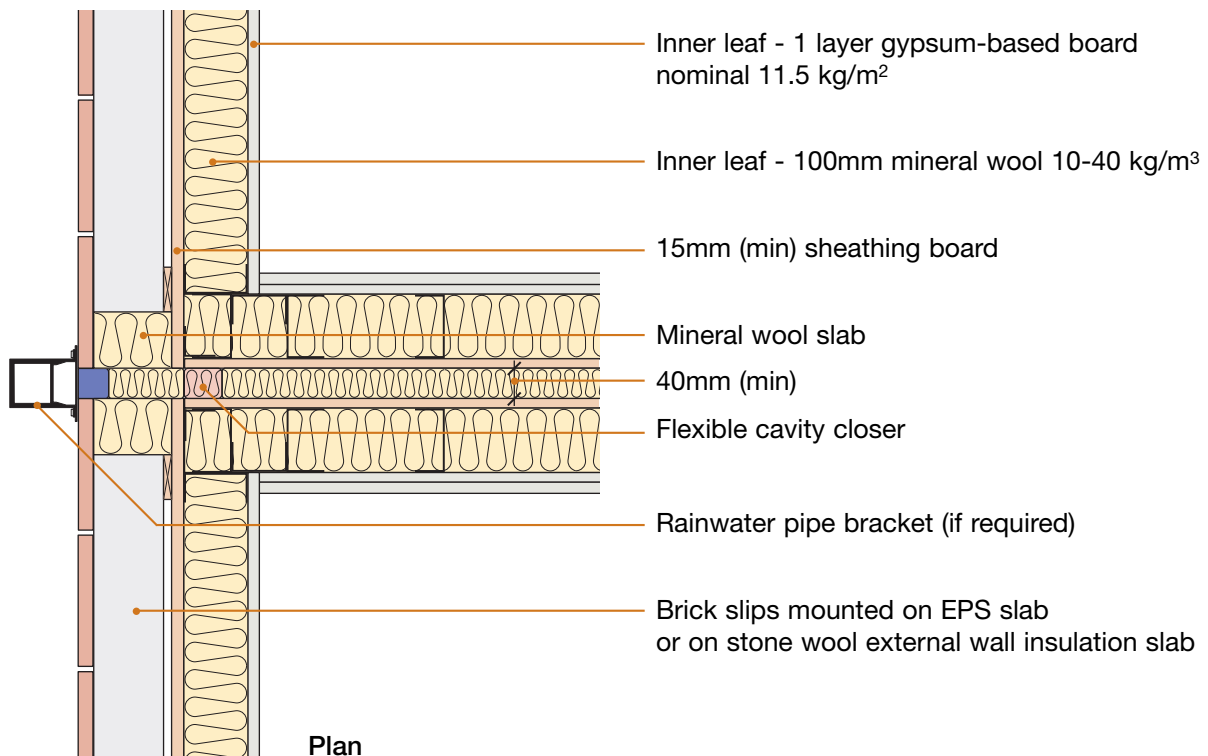
DO

- Keep wall sheathing boards at least 40mm apart
- Ensure that batts cover the whole wall area and are fitted together tightly
- Ensure that all cavity stops/closers are flexible
- Make sure there is no connection between the two leafs except for specified tie plates
- 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

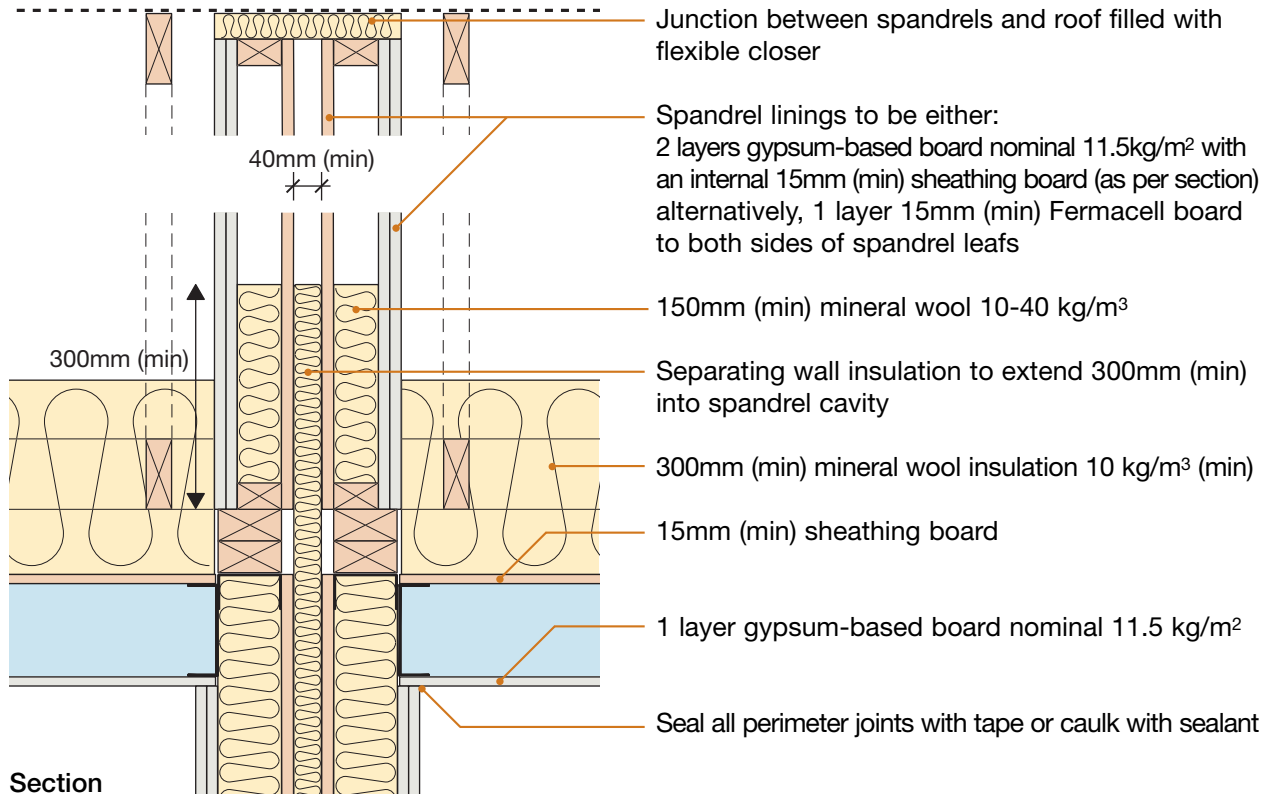
1. External wall junction – render



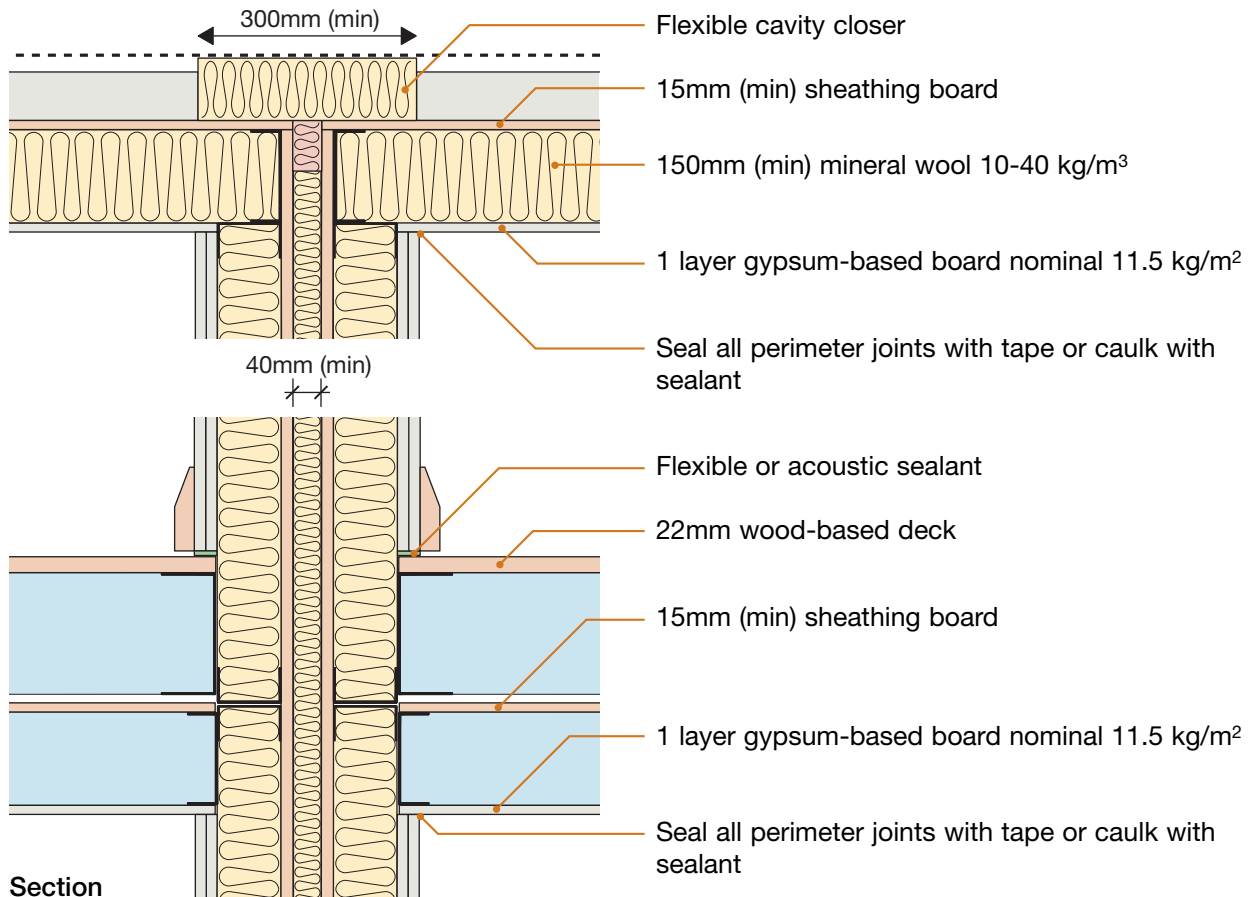
2. External wall junction – brick slip



7. Roof junction – pitched roof with no room-in-roof



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



Appendix A2 – Specific Flanking Conditions

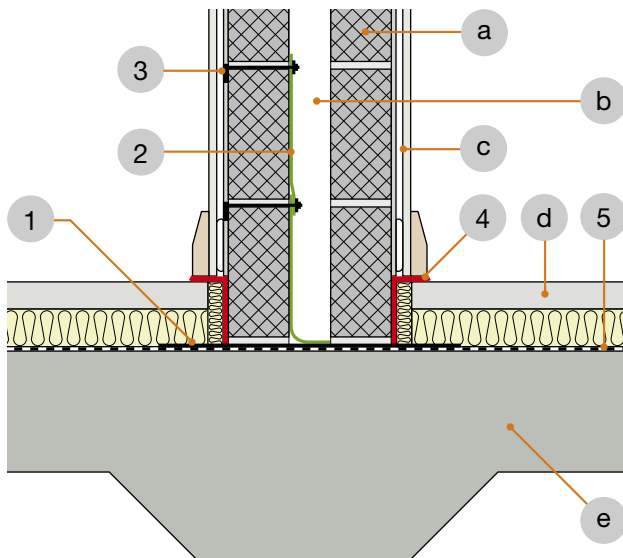
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Icopal-MONARFLOOR® BRIDGESTOP® System for robustdetails ® masonry cavity walls	2
Smartroof complete Interlocking “room-in-roof” panel system using robustdetails ® timber or masonry cavity walls	3
Kingspan TEK inner leaf flanking condition for robustdetails ® timber separating walls	4
Prestoplan PresPeak 60 interlocking single spandrel panel system for robustdetails ® timber separating walls	5
Icopal-MONARFLOOR® Wall Cap RDA2 System for robustdetails ® separating floors with cavity flanking walls	6
RoofSpace I-Roof™ “room-in-roof” panel system using robustdetails ® timber or masonry cavity walls	7
Space4 “room-in-roof” panel system using robustdetails ® timber or masonry cavity walls	8
Donaldson Timber Systems Single Leaf Spandrel Panel System for robustdetails ® timber separating walls	9
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Lightweight external cladding for robustdetails ® timber separating walls	11
Flanking construction to robustdetails ® precast concrete separating floors around private stairs	12
Nu-Span and Spantherm pre-insulated ground floor concrete slabs for use on robustdetails ® cavity separating walls	16

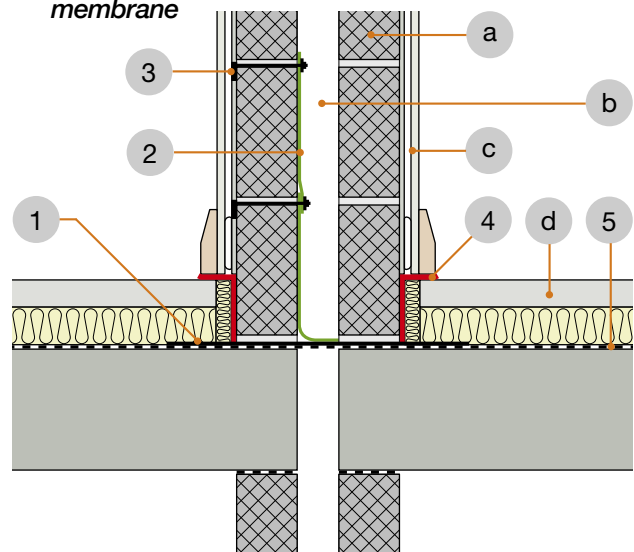
Appendix A2 – Specific Flanking Conditions

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

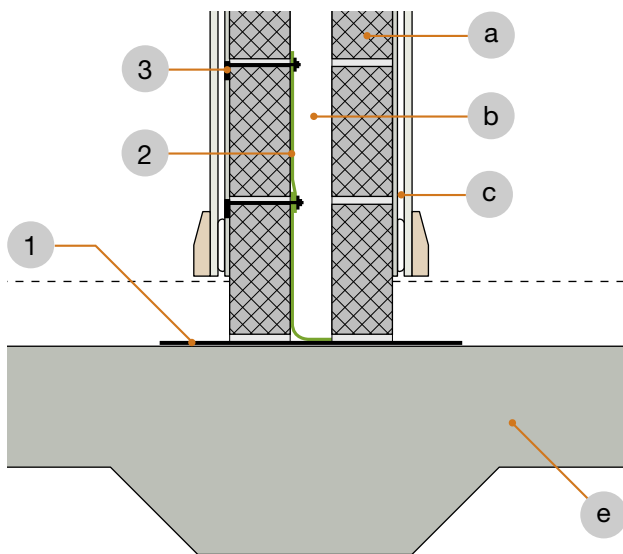
1. Separating wall – direct support on raft



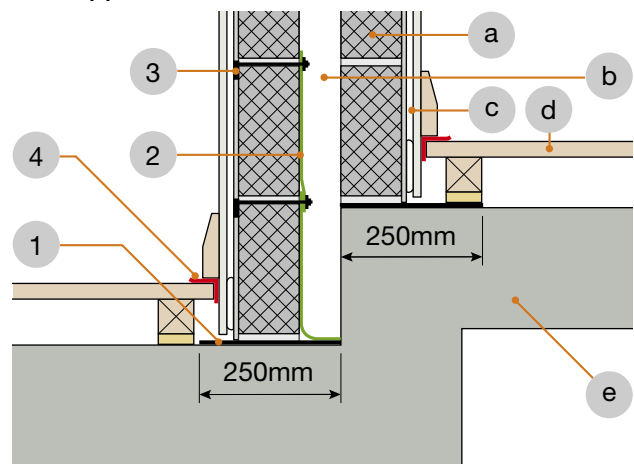
2. Separating wall – suspended floor with gas membrane



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 Flanking Band forming a 90° angle to isolate floating floor treatment from separating wall blocks, lining and skirting board.
- 5 Continuous dpm over the raft where ground gasses are an issue. Contact Icopal for specification.

- a Min 100mm block (with appropriate Type A wall ties) dependent on Robust Detail being used. Refer to Table 6a in the Introduction.
- 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 150mm (min) thick insitu concrete 365kg/m² (min) mass per unit area or Insulslab SFRC.

Contact details for Icopal-MONARFLOOR®:

Telephone: 0161 866 6540

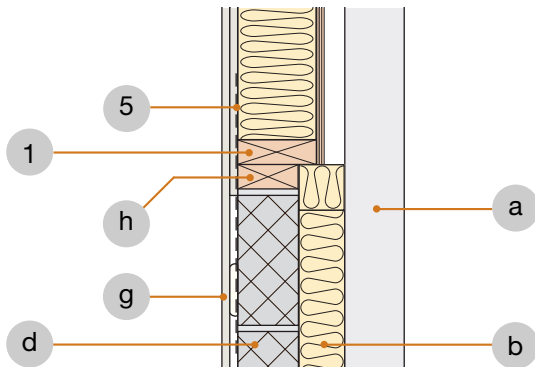
Fax: 0161 865 8433

E-mail: acoustics.uk@icopal.com

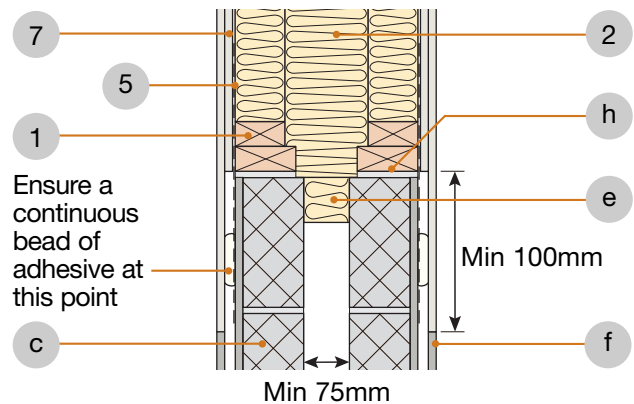
Appendix A2 – Specific Flanking Conditions

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

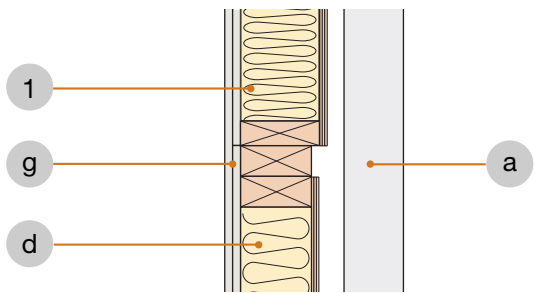
1. Gable flanking junction – masonry



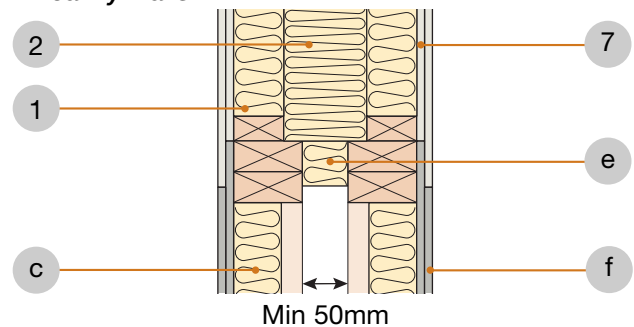
2. Room-in-roof junction with masonry cavity walls



3. Gable flanking junction – timber frame



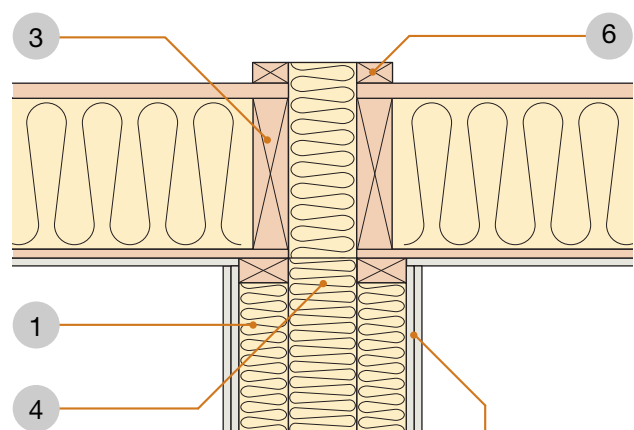
4. Room-in-roof junction with timber frame cavity walls



Key

- 1 Smartroof panel.
 - 2 Breather membrane-encased insulation cushion, fully filling the cavity.
 - 3 Smartroof roof panel.
 - 4 125x265mm flexible cavity closer by Smartroof.
 - 5 Vertical metal straps by Smartroof.
 - 6 25x50mm counterbattens by Smartroof.
 - 7 2 layers min.12.5mm gypsum-based board total 19.6 kg/m² to cover spandrel and wall plate second layer to overlap masonry by min.300mm.
- a Outer leaf of external wall.
 - b Continue cavity batts up to gable end if required.
 - c Refer to relevant **robustdetails**® separating wall.
 - d Inner leaf dependent on Robust Detail being used.
 - e Flexible cavity closer.
 - f Gypsum-based board(s) as specified on **robustdetails**® separating wall.
 - g Gypsum-based board nominal 8 kg/m². 2 layers required where separating floors are used (refer to **robustdetails**® separating floor).
 - h 100x50mm wall plate on nominal 10mm mortar bed. Ensure no gaps remain.

5. Separating wall – roof junction



(In apex void) 2 layers of 12.5mm gypsum-based board nominal 19.6 kg/m²

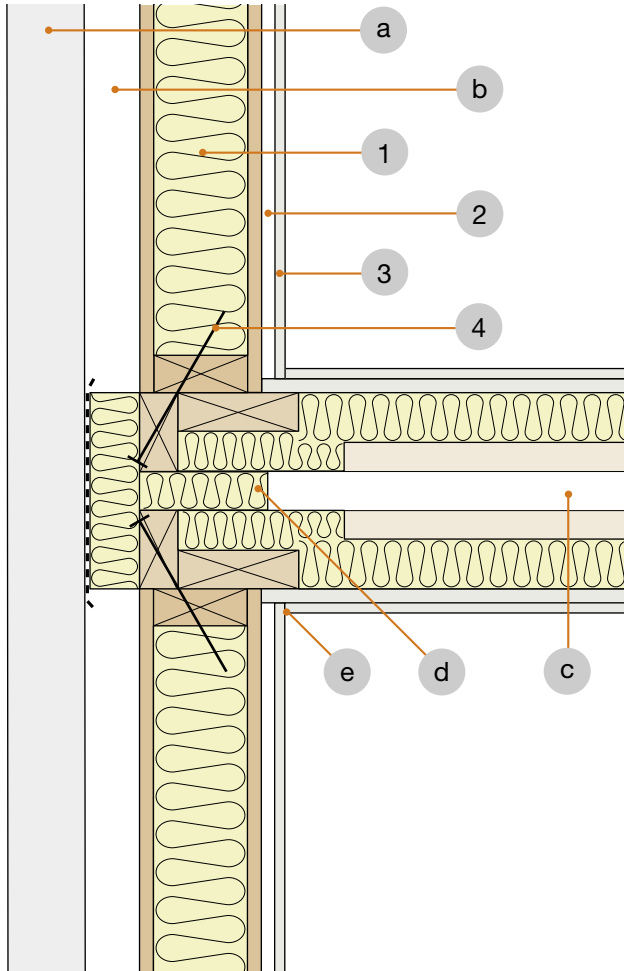
Contact details for Smartroof Limited:

Telephone: 01283 200 199
E-mail: info@smartroof.co.uk
Web: www.smartroof.co.uk

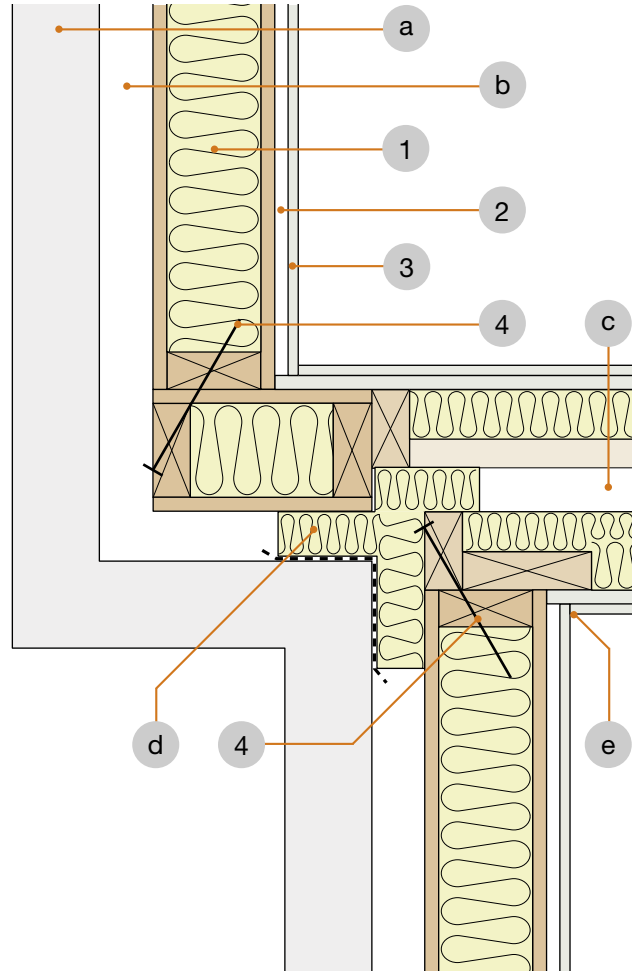
Appendix A2 – Specific Flanking Conditions

Kingspan TEK inner leaf flanking condition for **robustdetails**[®] 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

- 1 Kingspan TEK – 142 Panel.
- 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-**robustdetails**[®] 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 **robustdetails**[®] 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 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 density

The net density of the block (kg/m^3), measured at the appropriate moisture content from Table 3.2 CIBSE Guide A (1999), necessary to achieve the required mass per unit area (kg/m^2) of wall.

Block thickness

The block thickness quoted is the work size. Permissible manufacturing tolerances in accordance with the appropriate material part of BS EN 771.

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_{tr}

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^3)

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.

$D_{nT,w}$

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

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

Weighted standardised level difference which characterises the airborne sound insulation between two rooms using spectrum adaptation term (No.2) from 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 typically mineral wool “tubular style” 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.

Habitable room

For the purposes of Part E **robustdetails**[®], 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.

$L'_{nT,w}$

Weighted standardised impact sound pressure level. A single-number quantity (weighted) to characterise the impact sound insulation of floors. See BS EN ISO 717-2.

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, batt or blown 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.

$rd\Delta L_w$

This is specific to **robustdetails**[®] performance requirements and is the difference in weighting between two floor impact tests undertaken in an acoustic test laboratory. This should not be confused with the Approved Document E ΔL_w using BS EN ISO 717-2.

$rd\Delta R_w+C_{tr}$

This is specific to **robustdetails**[®] performance requirements and is the difference in weighting between two floor airborne tests undertaken in an acoustic test laboratory.

Rigid closer

A rigid cavity stop or cavity barrier which seals the air path in cavities linking adjoining dwellings. This can be timber or other rigid board material.

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 Regulations Part B – Fire Safety.

Robust Detail

A Robust Detail for Part E of the Building Regulations has been given the status of Robust Detail following a minimum of 30 “field tests” where the recorded mean performance was 5 dB better than the sound insulation requirements as described in Approved Document E for new build separating walls and floors.

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.

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 G

Determination of the acoustic performance for “bonded” resilient floor coverings used with robustdetails® concrete separating floor E-FC-8.

To determine the acoustic performance of bonded resilient floor coverings on robustdetails® concrete separating floors, impact measurements **should be** undertaken in an acoustic test laboratory. The following test procedure may be used for robustdetails® concrete separating floor E-FC-8. The following sections G.1 to G.4 outline the measurement and performance rating criteria. For the purposes of the laboratory test evaluation, the resilient floor covering **should not be bonded** to the laboratory heavyweight standard core floor.

G.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 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.

G.2 Core (or base) Concrete Floor and Resilient Floor Covering

Testing should be undertaken using the heavyweight reference floor as defined within BS EN ISO 10140-5 Annex C, paragraphs C2 to C2.2.

No ceiling treatments are permitted and no additional ceiling layers should be applied.

Resilient Floor Covering

Polyethylene foams are not suitable as resilient floor coverings.

The Resilient Floor Covering sample specimens should be:

- the same size as each other
- sufficiently large to support the whole tapping machine (including the tapping machine supports/legs)
- at least 1200mm x 600mm
- laid onto the core floor surface in accordance with the manufacturer's instructions.

Refer to BS EN ISO 10140-1 Annex H

G.3 Testing Required

Tests should be conducted using the method described in BS EN ISO 140-8 and the performance of each measurement rated in accordance with BS EN ISO 717-2.

For the purposes of evaluating the performance of a bonded resilient floor covering used with robustdetails® concrete separating floor E-FC-8, three different impact measurements are required as follows.

Impact

- Test 1 Determination of $L_{n,w}$ for the core (or base) concrete floor.
- Test 2 Determination of $L_{n,w}$ for the core (or base) concrete floor with the resilient floor covering applied to the core floor surface*.
- Test 3 Determination of $L_{n,w}$ for the core (or base) concrete floor with the resilient floor covering applied to the core floor and a wood board layer† laid over the upper surface.

* *The resilient floor covering samples should be tested as Category I (small specimens) - as Section 5.3.1.1 of ISO 140-8.*

† *The wood board layer should have a thickness of 8mm (min) to 16mm (max), a density of 600kg/m³ (±30 kg/m³) and be the same shape and no larger than the resilient floor cover sample, such that when laid over the resilient floor cover sample it does not directly touch the core floor surface. The wood board layer should be of suitable size to support the whole tapping machine and oversized by minimum 150mm around the footprint.*

G.4 Expression of Performance

The impact sound transmission performance of the resilient floor covering should be expressed in accordance with BS EN ISO 140-8 and BS EN ISO 717-2 as:

Result 1 reduction in impact sound transmission (ΔL_w 17dB) as a result of the application of the resilient floor covering to the core floor

Result 2 reduction in impact sound transmission ($rd\Delta L_w$ 17dB) as a result of the application of the wood board layer and resilient floor covering to the core floor (where the wood layer is on top of the resilient floor material).

G.5 Replacement Products

Any replacement product will be regarded as a ‘new product’ and will therefore have to be tested in full, in accordance with the requirements of this Appendix G.