### **April 2019 Update Pack**

Dear Colleague,

Thank you for downloading the April update – you'd be a fool not to!

This update includes pre-insulated concrete panels from Nu-Span and Spantherm for use as a suspended ground floor structure. As you'll see in the revised Table 6a, these flooring systems can be used with the vast majority of **robust**details<sup>®</sup> cavity separating walls.

A second flanking construction comes in the form of a single-leaf spandrel panel to E-WM-31, and this option can be used in place of the existing twin-leaf spandrels where required. There has also been a change to the wall tie configuration in E-WM-31.

We have also provided additional clarification on the flanking options for E-FS-3; and the wall specification used within the private stairs solution in Appendix A2.

Away from the flanking theme, "**energystore superbead**" EPS insulation is now accepted as an alternative to mineral wool for filling the cavity of E-WM-18.

#### Please update your January 2018, 4th Edition Handbook as follows:

- 1. Remove and replace just last page 9/10 of the Introduction.
- 2. Remove and replace just last page 1/2 of E-WM-18.
- 3. Remove and replace all pages of E-WM-31.
- 4. Remove and replace all pages of E-FS-3.
- 5. Remove and replace **page 1/2** and **page 13/14** of Appendix A2.
- 6. Add **page 15** to the end of Appendix A2.

Yours sincerely

The from

John Thompson Chief Executive, Robust Details Limited



Section Page

Page Amendment

#### Introduction

Table 6a9-10New flanking construction, Nu-Span<br/>and Spantherm ground floor planks<br/>added along with acceptable wall<br/>types.

#### Separating Wall – Masonry

E-WM-18		
Cavity insulation	1	"energystore superbead" added as a cavity insulation option.
E-WM-31		
4th bullet point	1	"SIG I-House" renamed as "RoofSpace I-House".
Isometric	1	Wall ties increased to 3 per storey height.
Diagram 3	3	Wall tie pattern changed to 3:2:3.
Diagram 7	5	"SIG RoofSpace I-Roof" renamed as "RoofSpace I-Roof".
		Alternative single-leaf spandrel option added.
Checklist	6	Item 6 changed to 3 ties per storey height.
		H+H UK added to Contacts box.

#### **Separating Floor – Steel**

#### E-FS-3

Diagram 1	2	Clarification on service zone option.
Checklist	6	Item 11 deleted; subsequent items renumbered.

#### Appendix A2

Contents	1	New flanking construction added: Nu-Span and Spantherm pre-insulated ground floor concrete slabs.
Private stairs	13	Clarification on the masonry wall construction.
Nu-Span and Spantherm	15	New flanking construction added: Nu-Span and Spantherm pre-insulated ground floor concrete slabs.

		BRIDGESTOP® system	Smartroof system	Wall Cap RDA2	RoofSpace I-Roof	Space4 system	Stewart Milne Sigma® Panel	<b>NYT</b> ROOF RAPID FIT SYSTEM	Nu-Span Spantherm
Masonry	E-WM-1	~		~		✓		~	<b>v</b>
walls	E-WM-2	~		~		✓		~	~
	E-WM-3	~	~	~	~	✓		~	~
	E-WM-4	~	~	~	~	~		~	~
	E-WM-5	~	~	~	✓	✓		~	<b>v</b>
	E-WM-6		~	~	✓				<b>~</b>
	E-WM-8	~	~	~	~	✓		~	~
	E-WM-9								
	E-WM-10		~	~	✓				✓
	E-WM-11	~	~	~	✓	✓		~	<b>v</b>
	E-WM-12	~	~	~	✓	✓		~	<b>v</b>
	E-WM-13		~	~	~				<b>v</b>
	E-WM-14	~	~	~	~	✓		~	~
	E-WM-15		~	~	~				~
	E-WM-16	~	~	~	~	✓		~	~
	E-WM-17	~	~	~	~	✓		~	<b>v</b>
	E-WM-18	~		~		✓		~	<b>v</b>
	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			~					<b>~</b>
	E-WM-26	<b>~</b>	~	~	~	✓		~	<b>~</b>
	E-WM-27	<b>~</b>	~	~	~	✓		~	<b>~</b>
	E-WM-28	~	~	✓	~	✓		~	~
	E-WM-29			✓					~
	E-WM-30	✓ see note 1	~	✓	~				~
	E-WM-31		~	✓	~				~
	E-WM-32	~	~	~	<b>v</b>	✓		~	<b>v</b>

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

Key

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

#### 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

		Smar syst	roof em	Kingspan TEK	Prestoplan PresPeak 60	Wall Cap RDA2	RoofSpace I-Roof	Space4 system	Stewart Milne Sigma® Panel	Lightweigh external cladding systems	t Nu-Span Spantherm
Timber	E-WT-	1 🗸	•	~	<b>v</b>	~	✓		✓	~	~
walls	E-WT-	2 🗸	•	~	✓	~	✓	~	~	~	~
	E-WT-	3 🖌	•			~	~				~
	E-WT-	4 🗸	•			~	✓				~
Steel	E-WS-	1					✓				~
walls	E-WS-	-2									
	E-WS-	-3									
	E-WS-	-4				~					~
	E-WS-	-5									

### Separating Wall – Cavity Masonry

### **E-WM-18**

Dense aggregate blocks ■ Wet plaster ■



# Separating wall cavity insulation (optional)

The cavity may be insulated with mineral wool with a maximum density of 40 kg/m<sup>3</sup> or "**energystore superbead**" insulation.

Block density 1850 to 2300 kg/m<sup>3</sup> Wall ties Approved Document E "Tie type A" (see Appendix A) Cavity width 100mm (min) Block thickness 100mm (min), each leaf Wall finish 13mm plaster or cement: sand render with plaster skim (min 10 kg/m<sup>2</sup>), both sides External Masonry (both leaves) with 50mm (min) cavity - clear, (flanking) wall fully filled or partially filled with insulation

### DO

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



#### 1. External (flanking) wall junction





Masonry outer leaf

External wall cavity (min 50mm)

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

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

- 100mm (min) concrete block (1350 kg/m<sup>3</sup> to 1600 kg/m<sup>3</sup> or 1850 kg/m<sup>3</sup> to 2300 kg/m<sup>3</sup>) or aircrete block (450 kg/m<sup>3</sup> to 800 kg/m<sup>3</sup>)
- Internal finish 13mm plaster or nominal 8 kg/m<sup>2</sup> gypsum-based board

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

- If using **robust**details<sup>®</sup> for floor, refer to Table 3a in introduction to select an acceptable **robust**details<sup>®</sup> separating floor. Then refer to separating floor Robust Detail to identify acceptable inner leaf construction
- If using floor requiring pre-completion testing, seek specialist advice

Tooth or tie walls together

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



Masonry outer leaf

External wall cavity (min 50mm)

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

- 100mm (min) concrete block (1350 kg/m<sup>3</sup> to 1600 kg/m<sup>3</sup>, 1850 kg/m<sup>3</sup> to 2300 kg/m<sup>3</sup>) or aircrete block (450 kg/m<sup>3</sup> to 800 kg/m<sup>3</sup>)
- Internal finish 13mm plaster or nominal 8 kg/m<sup>2</sup> gypsum-based board

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

- If using **robust**details<sup>®</sup> for floor, refer to Table 3a in introduction to select an acceptable **robust**details<sup>®</sup> separating floor. Then refer to separating floor Robust Detail to identify acceptable inner leaf construction
- If using floor requiring pre-completion testing, seek specialist advice

Tooth or tie walls together

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

### Separating Wall – Cavity Masonry

### E-WM-31

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



### 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

robust details®

#### 1. External (flanking) wall junction



#### 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



This guidance relates only to specific aspects of Part E (England & Wales) & Part G (Northern Ireland)

#### 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



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



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

Com	ipany:		
Site:			
Plot:	Site manager/supervisor:		
Ref.	Item	Yes No	Inspected
1.	Is separating wall cavity at least 100mm?		(initials & date)
2.	Is external (flanking) wall cavity at least 50mm?		
3.	Is external (flanking) wall inner leaf constructed from Celcon Elements or aircrete (450 to 800 kg/m <sup>3</sup> )?		
4.	Are separating wall leafs constructed from Celcon Elements or aircrete (600 to 800 kg/m <sup>3</sup> )?		
5.	Is cavity free from droppings and debris?		
6.	Are separating wall ties Vista VE4, Ancon Staifix HRT4 or Clan PWT4 installed at no more than 3 ties per storey-height joint?		
7.	Are cavity stops installed where specified in the Robust Detail?		
3.	Are joints fully filled?		
9.	Is 100mm mineral wool max. 40 kg/m <sup>3</sup> used, with no gaps remaining?		
10.	Is spandrel wall plate fully bedded on mortar, with no air gaps?	?	
11.	Are voids around floor joists, chases, etc. fully filled/sealed?		
12.	Where the ground floor has a floating floor treatment, has the perimeter insulation been installed?		
13.	Are all junctions of wall and ceiling boards sealed with tape or caulked with sealant?		
14.	Is separating wall satisfactorily complete?		
Cor	tact details for technical assistance from: H+H UK		
Tel	ephone: 01732 880580 Fax: 01732 887013	E-mail: techn	ical@hhcelcon.co.uk
Not	es (include details of any corrective action)		
Site	manager/supervisor signature		

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#### Cellecta ScreedBoard<sup>®</sup> 28 on timber sub-floor ■ Use with lightweight metal frame walls only

**F-FS-3** 



### DO

- Lay quilt (min 100mm thick) between all joists, including doubled up joists, ensuring no gaps remain
- Apply Cellecta SB adhesive to all ScreedBoard<sup>®</sup> 28 decking joints
- Install YELOfon<sup>®</sup> FS50 flanking angle around the perimeter of the ScreedBoard<sup>®</sup> 28 to isolate floor from walls and skirtings
- Ensure resilient ceiling bars are fixed at right angles to the joists
- Ensure ceiling treatment is fixed correctly (see section 4)
- Stagger joints in ceiling layers
- Refer to Appendix A

E-FS-3

Edition 4 April 2019 Update



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April 2019 Update

#### 1. External (flanking) wall junction - masonry outer leaf



#### 2. Separating wall junction

<b>robust</b> detail	S® This guidance n	elates only to specific aspects of Part	E (England & Wales) & Part G (Northern Ireland) Edition 4
Section			- Mineral wool insulation batts, 33-60 kg/m <sup>3</sup> , between studs to 600mm (min) below decking level
		2	- 2mm resilient strip on top of wall panels
			- Resilient bar below joists at 600mm (max) centres fixed through joist flange to manufacturer's detail
	220		- Ceiling treatment (see section 4)
<u> </u>			- 100mm mineral wool insulation quilt, 10-36 kg/m <sup>3</sup> (min)
	222		- 254mm (min) deep metal joists
			- Flexible acoustic sealant below plasterboard
			- ScreedBoard® 28
			<ul> <li>YELOfon<sup>®</sup> FS50 flanking angle installed at perimeter and turned under skirting board</li> </ul>
/			<ul> <li>Mineral wool insulation batts, 33-60 kg/m<sup>3</sup>, between studs to 600mm (min) above bottom rail of steel frame</li> </ul>
			<ul> <li>If using wall requiring pre-completion testing</li> <li>seek specialist advice</li> </ul>
		3	<ul> <li>If using robust details<sup>®</sup> for wall - refer to Table 3c in Introduction to select an appropriate robust details<sup>®</sup> separating wall</li> </ul>

#### 3. Internal wall junction





#### 4. Ceiling treatment for E-FS-3

- The maximum load on resilient bars should not exceed that specified in the manufacturer's instructions
- Ensure ceiling layers have staggered joints.
- Services must not puncture ceiling linings (except cables, which should be sealed around with flexible sealant)

#### CT1 and CT2 – Must include second ceiling



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

#### 16mm (min) resilient bars with CT1 and CT2

16mm (min) metal resilient ceiling bars mounted at right angles to the joists at 400mm centres (bars must achieve a minimum laboratory performance of  $rd\Delta Rw+Ctr=17dB$  and  $rd\Delta Lw=16dB$ ) – see Appendix E

#### Ceiling treatment CT1

Two layers of gypsum-based board, composed of 19mm (nominal 13.5 kg/m<sup>2</sup>) fixed with 32mm screws, and 12.5mm (nominal 10 kg/m<sup>2</sup>) fixed with 42 mm screws

#### **Ceiling treatment CT2**

Two layers of gypsum-based boards composed of 15mm (nominal 12.5 kg/m<sup>2</sup>) fixed with 25mm screws and second layer of 15mm gypsum-based board (nominal 12.5 kg/m<sup>2</sup>) fixed with 42mm screws

#### Downlighters and recessed lighting

Downlighters or recessed lighting may be installed in the second ceiling in accordance with the manufacturer's instructions

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

#### CT3 – Optional second ceiling



*Cellecta*<sup>®</sup> HP30 30mm deep metal resilient bar fixed perpendicular to floor joists at 600mm (max) centres

#### Ceiling treatment CT3

Two layers of gypsum-based boards composed of 15mm (nominal 12.5 kg/m<sup>2</sup>) fixed with 25mm screws and second layer of 15mm gypsum-based board (nominal 12.5 kg/m<sup>2</sup>) fixed with 42mm screws

#### Downlighters and recessed lighting

Downlighters or recessed lighting may be installed in the primary ceiling:

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

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

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

robust details<sup>®</sup> This guidance relates only to specific aspects of Part E (England & Wales) & Part G (Northern Ireland)

Edition 4 April 2019 Update

**robust**details<sup>®</sup>

#### 5. Underfloor heating systems below ScreedBoard®



#### 6. Services - pipes through separating floor



This guidance relates only to specific aspects of Part E (England & Wales) & Part G (Northern Ireland)

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

Site:				
Plot:	Site manager/supervisor:			
Ref.	Item	Yes	No	Inspected
1.	Are metal joists minimum 254mm deep?			
2.	ls sub-deck minimum 18mm, 600 kg/m³?			
3.	Are YELOfon® FS50 flanking angles installed correctly?			
4.	Has the ScreedBoard <sup>®</sup> 28 floating floor treatment been fitted in accordance with the manufacturer's instructions?			
5.	Where underfloor heating is used, is FIBRE <i>fon®</i> 8 installed in addition to the ScreedBoard® 20?			
6.	Are the correct type of resilient ceiling bars used and fitted, in accordance with the manufacturer's instructions, at right angles to the joists (Cellecta® HP30 bars must be used if second ceiling is not included)?			
7.	Has quilt (min 100mm thick) been fitted between the joists?			
3.	Has ceiling system been fitted in accordance with the manufacturer's instructions?			
9.	Are the ceiling treatments fixed to the resilient bars with correct screws, such that the screws do not touch or penetrate the joists?			
10.	For CT1 or CT2 is secondary ceiling void minimum 150mm?			
11.	Are all joints sealed with tape or caulked with sealant?			
12.	Are vertical service pipes wrapped in quilt and boxed in with two layers of gypsum-based board combined nominal mass per unit area of 16 kg/m <sup>2</sup> ?			
13.	Is separating floor satisfactorily complete?			
Cor	ntact details for technical assistance from Cellecta, manufacturer of ScreedB	loard® 28	system	:
Tel	ephone: 01634 296677 Fax: 01634 226630 E-mail: tec	hnical@	cellect	a.co.uk

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

1. Separating wall – direct support on raft





3. Insulated raft 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<sup>®</sup> BRIDGESTOP<sup>®</sup> Quilt in two lifts to prevent mortar droppings touching both masonry leaves.
- 3 MONARFLOOR<sup>®</sup> BRIDGESTOP<sup>®</sup> Tie to penetrate at max 450mm centres. Ties are reversible. May also be used as render depth marker.
- 4 MONARFLOOR<sup>®</sup> 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 lcopal for specification.

4. Stepped foundation



- 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/m<sup>2</sup> (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

The trade marks MONARFLOOR and BRIDGESTOP are the subject of UK trade mark registrations owned by Icopal Limited

BRIDGESTOP® is the subject of Patent Application ref GB2429719

robustoetails® This guidance relates only to specific aspects of Part E (England & Wales) & Part G (Northern Ireland)

#### Section A - cavity walls



13



## Section B - common junctions at stair landing Timber stairs

Section B - common junctions at stair landing Concrete stairs



Joint filled and sealed with

Nu-Span and Spantherm pre-insulated ground floor concrete slabs for **robust**details<sup>®</sup> cavity separating walls. Refer to Table 6 in Introduction.

#### 1. Slab installation - ground floor only





Timber and light steel frame walls

2. Slab components



#### Key

- Nu-Span or Spantherm pre-insulated slab, 300mm or 375mm deep.
   Slabs can be end-bearing or side-bearing.
- 2 Nominal 10mm self-levelling compound. Thicker screed layers are also acceptable.
- a robustdetails® separating wall. Refer to Table 6a in the Introduction and relevant Robust Detail in the Handbook
- b Maintain minimum cavity width specified for chosen robustdetails<sup>®</sup> separating wall. This can be insulated in accordance with the specification for the chosen wall type.

#### Contact details for Nu-Span:

Telephone: 01842 810445 E-mail: info@nu-span.com Web: www.nu-span.com

#### Contact details for Spantherm:

Telephone: 01636 831043 E-mail: spantherm@creaghconcrete.com Web: www.creaghconcrete.com